



## MANITOWOC PUBLIC UTILITIES

1303 South 8<sup>th</sup> Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 [www.mpu.org](http://www.mpu.org)

Mr. Randy Matty, P.E.  
Air Management Engineer  
Wisconsin Department of Natural Resources  
2984 Shawano Ave.  
Green Bay, WI 54313-6727

July 15, 2013

Subject: Quarterly Excess Emission Report (second quarter 2013)

Dear Mr. Matty:

Enclosed please find the Quarterly Excess Emission Report for the Manitowoc Public Utilities Power Plant as required by permit conditions I.D.3.c.(4), I.D.4.c.(5), I.D.5.c.(3), I.E.2.c.(4), I.E.5.c.(3), and I.E.4.c.(3), of permit no.: 436035930-P21. This report is for the quarter ending June 30, 2013 for our facility located at 701 Columbus Street, Manitowoc, Wisconsin. The report includes: quarterly fuel sampling & analysis reports, continuous opacity monitoring system reports on S-10 & S-20, reports on our SO<sub>2</sub>, NO<sub>x</sub> and CO monitoring systems on Boilers B28 and B09, quarterly audits performed on our opacity monitors and quarterly cylinder gas audits for the Part 60 and/or Part 75 analyzers on Boiler B28 and B09.

(a.) Below is the 12-month rolling average heat input to the diesel.

| <u>P28 Diesel Unit</u>  |                   |
|-------------------------|-------------------|
| April                   | 101 mmBtu         |
| May                     | 101 mmBtu         |
| June                    | 99 mmBtu          |
| <u>Applicable Limit</u> | 4,814 mmBtu/month |
| Compliance Status       | In Compliance     |

(b.) Compliance activities for the second quarter of 2013 can be summarized as follows:

|                      | <u>8-SO<sub>2</sub></u> | <u>8-NO<sub>X</sub></u> | <u>8-CO</u> | <u>9-SO<sub>2</sub></u> | <u>9-NO<sub>X</sub></u> | <u>9-CO</u> | <u>Opacity S20</u> | <u>Opacity S10</u> |
|----------------------|-------------------------|-------------------------|-------------|-------------------------|-------------------------|-------------|--------------------|--------------------|
| Excess emissions (%) | 0%                      | 0%                      | 0%          | 0%                      | 0%                      | 0%          | 0.06 %             | 0.0 %              |
| Downtime (%)         | 0.06 %                  | 0.06 %                  | 0.37 %      | 0.17%                   | 0.35%                   | 0.24%       | 0.10 %             | 0.12 %             |

(c.) Below are the 12-month rolling average mass emissions from B09.

|                          | B09 SO <sub>2</sub> Tons                    | B09 NO <sub>X</sub> Tons                     |
|--------------------------|---|--|
| April                    | 5.9 tons/month                              | 1.99 tons/month                              |
| May                      | 6.0 tons/month                              | 2.04 tons/month                              |
| June                     | 6.9 tons/month                              | 2.08 tons/month                              |
| <u>Applicable Limits</u> | 71.2 tons per month<br>51.02 tons per month | 24.62 tons per month<br>23.33 tons per month |
| Compliance Status        | <b>In Compliance</b>                        | <b>In Compliance</b>                         |

(d.) Below are the weighted average monthly paper pellet data.

| Month | Tons    | % Moisture | % Ash | %Sulfur | %Chlorine | BTU Common |
|-------|---------|------------|-------|---------|-----------|------------|
| April | 2,626.3 | 1.96       | 6.92  | 0.10    | 0.19      | 10,518     |
| May   | 3,709.7 | 2.39       | 6.49  | 0.11    | 0.12      | 11,190     |
| June  | 3,339.0 | 2.47       | 5.99  | 0.06    |           | 10,218     |

Note: All paper pellets were prepared and provided by Pellet America or Greenwood fuels and are classified by the WDNR as non-municipal solid waste.

(e.) Quarterly EPA ECMPS Monitoring Report Submissions.

| Monitoring Location | Submission Type | Date Accepted |
|---------------------|-----------------|---------------|
| 8 (S20)             | QA              | 07/15/2013    |
| 8 (S20)             | EM QTR 1        | 07/15/2013    |
| 9                   | QA              | 07/12/2013    |
| 9                   | EM QTR 1        | 07/15/2013    |

(f.) B10 emissions on a 12-month rolling average basis:

| Month  | B10                         | B10                          | B10                          | B10                          | B10                           |
|--------|-----------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
|        | Average PM<br>12-month (lb) | Average Nox<br>12-month (lb) | Average SO2<br>12-month (lb) | Average VOC<br>12-month (lb) | Average GHG<br>12-month (ton) |
| Limit  | 195                         | 1086                         | 16.7                         | 153                          | 1,492                         |
| Apr-13 | 31.6                        | 176.7                        | 2.5                          | 22.9                         | 249.7                         |
| May-13 | 30.6                        | 171.2                        | 2.4                          | 22.2                         | 242.0                         |
| Jun-13 | 28.9                        | 161.8                        | 2.3                          | 20.9                         | 228.6                         |

(g.) B28 emissions on a 12-month rolling average basis:

| Month  | B8                           | B8                             | B8                              | B8                           | B8                           | B8                          | B8                              | B8 Hi exclude bio.            | S20 (B8)                     | S20 (B8) | S20 (B8) | S20 (B8) | Total B8 HI    |                               |
|--------|------------------------------|--------------------------------|---------------------------------|------------------------------|------------------------------|-----------------------------|---------------------------------|-------------------------------|------------------------------|----------|----------|----------|----------------|-------------------------------|
|        | Average PM<br>12-month (ton) | Average PM10<br>12-month (ton) | Average PM2.5<br>12-month (ton) | Average CO<br>12-month (ton) | Average Pb<br>12-month (ton) | Average F<br>12-month (ton) | Average H2SO4<br>12-month (ton) | Average GHG<br>12-month (ton) | Average HI<br>12-month mmBtu | Arsenic  | Nox      | SO2      | Organic Compds | Rolling 12-month<br>[=] mmBtu |
| Limit  | 1.383                        | 1.383                          | 0.94                            | 35.5                         | 1.70E-02                     | 0.054                       | 0.64                            | 13,816.0                      | 133,333                      | 98.1     | 7.76     | 34.125   | 7.76           | 133,333                       |
| Apr-13 | 0.473                        | 0.473                          | 0.27                            | 3.8                          | 7.41E-05                     | 0.011                       | 0.11                            | 3,991.4                       | 12,884                       | 0.17     | 3.20     | 5.658    | 0.04           | 37,812                        |
| May-13 | 0.514                        | 0.514                          | 0.29                            | 4.1                          | 8.06E-05                     | 0.012                       | 0.11                            | 4,360.0                       | 11,561                       | 0.19     | 3.31     | 5.533    | 0.04           | 41,139                        |
| Jun-13 | 0.575                        | 0.575                          | 0.33                            | 4.4                          | 9.01E-05                     | 0.014                       | 0.11                            | 4,893.1                       | 12,653                       | 0.21     | 3.48     | 5.733    | 0.05           | 45,978                        |

(h.) B09 emissions on a 12-month rolling average basis:

| Month  | B9                           | B9                             | B9                              | B9                           | B9                           | B9                          | B9                              | B9                            | S10 (B9) |
|--------|------------------------------|--------------------------------|---------------------------------|------------------------------|------------------------------|-----------------------------|---------------------------------|-------------------------------|----------|
|        | Average PM<br>12-month (ton) | Average PM10<br>12-month (ton) | Average PM2.5<br>12-month (ton) | Average CO<br>12-month (ton) | Average Pb<br>12-month (ton) | Average F<br>12-month (ton) | Average H2SO4<br>12-month (ton) | Average GHG<br>12-month (ton) | Arsenic  |
| Limit  | 4.025                        | 3.190                          | 2.560                           | 35.6                         | 0.028                        | 0.3380                      | 0.99                            | 42,289.0                      | 27.40    |
| Apr-13 | 0.412                        | 0.412                          | 0.259                           | 0.69                         | 2.26E-05                     | 0.0143                      | 0.052                           | 5,137.6                       | 1.93     |
| May-13 | 0.416                        | 0.416                          | 0.262                           | 0.71                         | 2.29E-05                     | 0.0145                      | 0.053                           | 5,187.8                       | 1.95     |
| Jun-13 | 0.475                        | 0.475                          | 0.299                           | 0.72                         | 2.61E-05                     | 0.0165                      | 0.060                           | 5,949.9                       | 2.22     |

Furthermore, with regards to Boiler B28 and B09, to the best of my knowledge, based on the information supplied to me:

- a) There were 1 boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 18 hours of operation of the facility.
- b) The Fc factor for unit B28 ranged from 1,040 to 1,877 and unit B09 ranged from 1,040 to 1,862. The fuel combusted was an 80%/20% pet coke/coal blend either alone or in combination with paper pellets and/or charcoal on units 8 and 9.
- c) There were 0 times when hourly averages have been obtained based on manual sampling methods.
- d) There were 0 times when the pollutant concentration exceeded full span of the continuous monitoring system.
- e) There were 0 modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3 of 40 CFR part 60, Appendix B.
- f) There were 0 changes made in operation of the emissions control systems during any period of data unavailability.
- g) The required continuous monitoring system calibration, span, and drift checks or other periodic audits have been performed as specified.
- h) The data used to show compliance was obtained in accordance with approved methods and procedures of NR 440 and is representative of plant performance.
- i) The minimum data requirements have been met.
- j) Compliance with the standards has been achieved during the reporting period except as specified in the enclosed reports.

If you have any questions concerning this report please call me at (920) 686-4211.

Sincerely,



Jerry Ahlsweide  
Energy Supply and Production Supervisor

Cc: Red Jones – MPU, Tom Reed – MPU, Tim Harding – MPU, Scott Karbon – MPU

Enclosure

**State of Wisconsin**  
Department of Natural Resources  
Box 7921  
Madison, WI 53707

**FUEL SAMPLING & ANALYSIS REPORT**  
Form 4500-134 4-94

Date Received By DNR

**PART I. FACILITY INFORMATION**

|                       |  |   |
|-----------------------|--|---|
| Name of Company / FID | Manitowoc Public Utilities / 436035930 | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013              |
| Address               | 701 Columbus Street                    | Limit None  |
| City, State, Zip Code | Manitowoc, WI 54220                    | Test Frequency Required <input type="checkbox"/> PER SHIPMENT   |
| Stack/Process         | S10 / B09                              | <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> WEEKLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY |

**PART II. EXCESS EMISSIONS (EE)**

|  |   |         |
|--|---|---------|
| A. Total Fuel Quantity Used as Fired   | <input checked="" type="checkbox"/> tons fuel <input type="checkbox"/> 1000 gallons oil | 7,637.3 |
| B. Weighted Average Percent Ash as Fired   |   | 2.02    |
| C. Weighted Average Percent Sulfur as Fired  |   | 4.12    |
| D. Weighted Average Heat Content as Fired  | <input type="checkbox"/> BTU/pound fuel <input type="checkbox"/> BTU/gallon oil         | 12,444  |
| E. Weighted Average Sulfur Dioxide as Fired (pounds SO <sub>2</sub> /mmBtu) (UNCONTROLLED) |   | 6.61    |
| F. Number of Possible Sample Periods In Qtr. (92,91,90,13,3,1, per shipment)               |   | 5       |
| G. Number of Actual Samples Performed Per Quarter  |   | 5       |
| H. Number of Samples Over Limit  |   | 0       |
| I. Percent Unavailability of Samples <sup>1</sup>  |   | 0       |
| J. Percent Excess Emission <sup>2</sup>  |   | 0       |

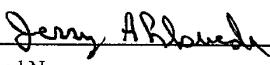
<sup>1</sup> (F-G)/F x 100

Fuel is a blend consisting of petroleum coke and/or coal plus paper pellets and charcoal.

<sup>2</sup> (H/G) x 100

\*\*If the total duration of excess emissions is greater than 1% or the total percent unavailability is greater than 5%, then both this Fuel Sampling & Analysis Summary and the Complete Fuel Sampling and Analysis Report shall be submitted. If both conditions are satisfied, then only this Fuel Sampling and Analysis Summary and the results of any fuel audits performed shall be submitted. Additional information may be requested by the Department.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |                                  |
|---|--|----------------------------------|
| Signature  | Title Energy Supply and Production Supervisor        |                                  |
| Printed/Typed Name Jerry Ahlsweide  | Telephone Number (incl. Area code)<br>(920) 686-4211 | Date Signed<br><b>07-16-2013</b> |

**LEAVE BLANK - FOR DNR USE ONLY**

|                 |                     |
|-----------------|---------------------|
| Recommendation: | DNR Reviewer _____  |
|                 | Date Reviewed _____ |
| Comments:       |                     |

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, WI 53707

FUEL SAMPLING & ANALYSIS REPORT  
Form 4500-134 4-94

Date Received By DNR

**PART I. FACILITY INFORMATION**

|                       |  |   |
|-----------------------|--|---|
| Name of Company / FID | Manitowoc Public Utilities / 436035930 | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013              |
| Address               | 701 Columbus Street                    | Limit <u>None</u>   |
| City, State, Zip Code | Manitowoc, WI 54220                    | Test Frequency Required <input type="checkbox"/> PER SHIPMENT   |
| Stack/Process         | S20 / B28                              | <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> WEEKLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY |

**PART II. EXCESS EMISSIONS (EE)**

|  |  |          |
|--|--|----------|
| A. Total Fuel Quantity Used as Fired   | <input checked="" type="checkbox"/> tons fuel <input type="checkbox"/> 1000 gallons oil    | 13,377.5 |
| B. Weighted Average Percent Ash as Fired   |  | 4.70     |
| C. Weighted Average Percent Sulfur as Fired  |  | 1.51     |
| D. Weighted Average Heat Content as Fired  | <input type="checkbox"/> BTU/pound fuel <input checked="" type="checkbox"/> BTU/gallon oil | 11,178   |
| E. Weighted Average Sulfur Dioxide as Fired (pounds SO <sub>2</sub> /mmBtu) (UNCONTROLLED) |  | 2.69     |
| F. Number of Possible Sample Periods In Qtr. (92,91,90,13,3,1, per shipment)               |  | 13       |
| G. Number of Actual Samples Performed Per Quarter  |  | 13       |
| H. Number of Samples Over Limit  |  | 0        |
| I. Percent Unavailability of Samples <sup>1</sup>  |  | 0        |
| J. Percent Excess Emission <sup>2</sup>  |  | 0        |

<sup>1</sup> (F-G)/F x 100

Fuel is a blend consisting of petroleum coke and/or coal

<sup>2</sup> (H/G) x 100

plus paper pellets and charcoal.

\*\*If the total duration of excess emissions is greater than 1% or the total percent unavailability is greater than 5%, then both this Fuel Sampling & Analysis Summary and the Complete Fuel Sampling and Analysis Report shall be submitted. If both conditions are satisfied, then only this Fuel Sampling and Analysis Summary and the results of any fuel audits performed shall be submitted. Additional information may be requested by the Department.

I certify that the information contained in this report is true, accurate, and complete.

|                                    |  |                                  |
|------------------------------------|--|----------------------------------|
| Signature <u>Jerry Ahlsweide</u>   | Title Energy Supply and Production Supervisor        |                                  |
| Printed/Typed Name Jerry Ahlsweide | Telephone Number (incl. Area code)<br>(920) 686-4211 | Date Signed<br><u>07-16-2013</u> |

LEAVE BLANK - FOR DNR USE ONLY

|                 |                     |
|-----------------|---------------------|
| Recommendation: | DNR Reviewer _____  |
|                 | Date Reviewed _____ |
| Comments:       |                     |

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

Note: Completion of this form is required  
pursuant to chapter NR 439, Wis. Adm. Code

### Excess Emission Report - Opacity

Form 4500-125 (R 5/09)

Date Received by DNR

#### PART I. FACILITY INFORMATION

FID/Name of Company 436035930 / Manitowoc Public Utilities

1  2  3  4  QTR. 2013

Address 701 Columbus Street  
Manitowoc, WI 54220

Cert./CEA 06-17-2013 (date)

Manufacturer/Model Number  
United Science Inc. Model No. 550

Stack/Process  
S20 / B28

Total Source Operating Time in Quarter 104,602 (mins)

Emission Limit 20%

#### PART II. CAUSES OF EXCESS EMISSIONS (EE)

Duration of EE (mins) % of Operating Time<sup>1</sup>

|                                  |    |       |
|----------------------------------|----|-------|
| A. Startup/Shutdown              | 12 | 0.01% |
| B. Soot Blowing                  | 0  | 0%    |
| C. Control Equipment Malfunction | 0  | 0%    |
| D. Process Malfunction           | 0  | 0%    |
| E. Other Known Causes            | 12 | 0.01% |
| F. Unknown Causes                | 0  | 0%    |
| G. Total (A + B + ...F)          | 24 | 0.02% |

#### PART III. CAUSES OF CEMS DOWNTIME

Downtime (mins) % of Operating Time<sup>1</sup>

|                                      |     |       |
|--------------------------------------|-----|-------|
| A. Monitor Equipment Malfunction     | 0   | 0%    |
| B. Non-Monitor Equipment Malfunction | 0   | 0%    |
| C. QA/QC Calibration                 | 60  | 0.06% |
| D. Other Known Causes                | 42  | 0.04% |
| E. Unknown Causes                    | 0   | 0%    |
| F. Total (A + B + ...E)              | 102 | 0.10% |

<sup>1</sup> [EE (mins) or Downtime (mins) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|           |       |   |
|-----------|-------|---|
| Signature | Title | Energy Supply and Production Supervisor |
|-----------|-------|---|

|                    |                 |  |                           |
|--------------------|-----------------|--|---------------------------|
| Printed/Typed Name | Jerry Ahlsweide | Phone Number (incl. Area Code)<br>(920) 686-4211 | Date Signed<br>07-16-2013 |
|--------------------|-----------------|--|---------------------------|

LEAVE BLANK - FOR DNR USE ONLY

Recommendation

DNR Reviewer \_\_\_\_\_

Date Reviewed \_\_\_\_\_

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - Opacity**  
Form 4500-125 (R 5/09)

Note: Completion of this form is required  
pursuant to chapter NR 439, Wis. Adm. Code

Date Received by DNR

**PART I. FACILITY INFORMATION**

FID/Name of Company 436035930 / Manitowoc Public Utilities

1  2 3 4 QTR. 2013

Address 701 Columbus Street  
Manitowoc, WI 54220

Cert./CEA 06-17-2013 (date)

Manufacturer/Model Number  
United Science Inc. Model No. 550

Stack/Process  
S10 / P28, B09

Emission Limit 20%

Total Source Operating Time in Quarter 59,436 (mins)

**PART II. CAUSES OF EXCESS EMISSIONS (EE)**

|                                  | Duration of EE (mins) | % of Operating Time <sup>1</sup> |
|----------------------------------|-----------------------|----------------------------------|
| A. Startup/Shutdown              | 0                     | 0%                               |
| B. Soot Blowing                  | 0                     | 0%                               |
| C. Control Equipment Malfunction | 0                     | 0%                               |
| D. Process Malfunction           | 0                     | 0%                               |
| E. Other Known Causes            | 0                     | 0%                               |
| F. Unknown Causes                | 0                     | 0%                               |
| G. Total (A + B + ...F)          | 0 <sup>2</sup>        | 0%                               |

**PART III. CAUSES OF CEMS DOWNTIME**

|                                      | Downtime (mins) | % of Operating Time <sup>1</sup> |
|--------------------------------------|-----------------|----------------------------------|
| A. Monitor Equipment Malfunction     | 0               | 0%                               |
| B. Non-Monitor Equipment Malfunction | 0               | 0%                               |
| C. QA/QC Calibration                 | 36              | 0.06%                            |
| D. Other Known Causes                | 36              | 0.06%                            |
| E. Unknown Causes                    | 0               | 0%                               |
| F. Total (A + B + ...E)              | 72 <sup>2</sup> | 0.12%                            |

<sup>1</sup> [EE (mins) or Downtime (mins) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature

Title Energy Supply and Production Supervisor

Printed/Typed Name

Jerry Ahlsweide

Phone Number (incl. Area Code)  
(920) 686-4211

Date Signed

07-16-2013

LEAVE BLANK - FOR DNR USE ONLY

Recommendation

DNR Reviewer

Date Reviewed

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Date Received by DNR

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

**PART I. FACILITY INFORMATION**

|                                  |  |  |
|----------------------------------|--|--|
| FID/Name of Company              | 436035930 / Manitowoc Public Utilities   | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert <u>05/15/2013</u> (date)<br><u>(date)</u>                       |
| Address                          | 701 Columbus Street, Manitowoc, WI 54220 | Type of Audit: CGA, IAA, RAA, RATA   |
| Manufacturer/Model Number        | Stack Process                            | Emission Limit 0.89 lbs SO <sub>2</sub> /mmBtu (30-day rolling ave.)<br>90% reduction of SO <sub>2</sub> (30-day rolling ave.)<br>70% reduction of SO <sub>2</sub> if S < 1% |
| TEI Model: 43iSO2 S/N 0908635559 | S20 / B28                                | Total Source Operating Time in Quarter <u>1,730.78</u> (hrs)<br>Pollutant <u>SO<sub>2</sub></u>  |

**PART II. CAUSES OF EXCESS EMISSIONS (EE)**

|                                  | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|----------------------------------|----------------------|----------------------------------|
| A. Startup/Shutdown              | 0                    | 0%                               |
| B. Process Malfunction           | 0                    | 0%                               |
| C. Control Equipment Malfunction | 0                    | 0%                               |
| D. Fuel Problems                 | 0                    | 0%                               |
| E. Other Known Causes            | 0                    | 0%                               |
| F. Unknown Causes                | 0                    | 0%                               |
| G. Total (A + B + ...F)          | 0                    | <sup>2</sup> 0%                  |

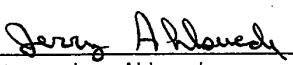
**PART III. CAUSES OF CEMS DOWNTIME**

|                                      | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--------------------------------------|----------------|----------------------------------|
| A. Monitor Equipment Malfunction     | 0              | 0%                               |
| B. Non-Monitor Equipment Malfunction | 0              | 0%                               |
| C. QA/QC Calibration                 | 1.0            | 0.06%                            |
| D. Other Known Causes                | 0              | 0%                               |
| E. Unknown Causes                    | 0              | 0%                               |
| F. Total (A + B + ...E)              | 1.0            | <sup>2</sup> 0.06%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |
|---|--|
| Signature   | Title  |
|  | Energy Supply and Production Supervisor          |
| Printed/Typed Name Jerry Ahlsweide  | Phone Number (incl. Area Code)<br>(920) 686-4211 |

| LEAVE BLANK - FOR DNR USE ONLY |               |  |
|--------------------------------|---------------|--|
| Recommendation                 |               |  |
|                                | DNR Reviewer  |  |
|                                | Date Reviewed |  |

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

Source: S20 Standard Limit: 0.89

Parameter: S20SO2#M

| Date     | Daily           |             |         | 30 Day     |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 21              | 21          | 0.114   | 30         | 459         | 0.065   |
| 04/02/13 | 19              | 19          | 0.152   | 30         | 460         | 0.069   |
| 04/03/13 | 20              | 20          | 0.079   | 30         | 479         | 0.071   |
| 04/04/13 | 18              | 18          | 0.032   | 30         | 478         | 0.070   |
| 04/05/13 | 18              | 18          | 0.129   | 30         | 494         | 0.075   |
| 04/06/13 | 0               | 0           | F       | 30         | 494         | 0.075 F |
| 04/07/13 | 2               | 2           | 0.000   | 30         | 475         | 0.073   |
| 04/08/13 | 22              | 22          | 0.116   | 30         | 477         | 0.076   |
| 04/09/13 | 23              | 23          | 0.168   | 30         | 482         | 0.078   |
| 04/10/13 | 24              | 24          | 0.173   | 30         | 487         | 0.080   |
| 04/11/13 | 20              | 20          | 0.065   | 30         | 505         | 0.082   |
| 04/12/13 | 20              | 20          | 0.049   | 30         | 505         | 0.082   |
| 04/13/13 | 19              | 19          | 0.067   | 30         | 507         | 0.084   |
| 04/14/13 | 15              | 15          | 0.018   | 30         | 506         | 0.078   |
| 04/15/13 | 22              | 22          | 0.115   | 30         | 510         | 0.077   |
| 04/16/13 | 24              | 24          | 0.144   | 30         | 516         | 0.080   |
| 04/17/13 | 21              | 21          | 0.156   | 30         | 527         | 0.081   |
| 04/18/13 | 22              | 22          | 0.119   | 30         | 547         | 0.085   |
| 04/19/13 | 22              | 22          | 0.019   | 30         | 548         | 0.085   |
| 04/20/13 | 18              | 18          | 0.097   | 30         | 548         | 0.086   |
| 04/21/13 | 2               | 2           | 0.000   | 30         | 530         | 0.082   |
| 04/22/13 | 21              | 21          | 0.111   | 30         | 532         | 0.083   |
| 04/23/13 | 21              | 21          | 0.125   | 30         | 538         | 0.084   |
| 04/24/13 | 19              | 19          | 0.141   | 30         | 544         | 0.088   |
| 04/25/13 | 20              | 20          | 0.097   | 30         | 544         | 0.088   |
| 04/26/13 | 22              | 22          | 0.025   | 30         | 543         | 0.084   |
| 04/27/13 | 22              | 22          | 0.124   | 30         | 544         | 0.085   |
| 04/28/13 | 16              | 16          | 0.012   | 30         | 542         | 0.085   |
| 04/29/13 | 21              | 21          | 0.165   | 30         | 552         | 0.088   |
| 04/30/13 | 24              | 24          | 0.139   | 30         | 559         | 0.092   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source: S20 Standard Limit: 0.89

Parameter: S20SO2#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 21              | 21          | 0.154   | 30         | 579         | 0.097   |
| 05/02/13 | 19              | 19          | 0.029   | 30         | 577         | 0.094   |
| 05/03/13 | 18              | 18          | 0.063   | 30         | 576         | 0.091   |
| 05/04/13 | 17              | 17          | 0.091   | 30         | 573         | 0.091   |
| 05/05/13 | 12              | 12          | 0.055   | 30         | 567         | 0.092   |
| 05/06/13 | 23              | 23          | 0.164   | 30         | 572         | 0.093   |
| 05/07/13 | 21              | 21          | 0.187   | 30         | 591         | 0.100   |
| 05/08/13 | 21              | 21          | 0.028   | 30         | 590         | 0.097   |
| 05/09/13 | 24              | 24          | 0.033   | 30         | 591         | 0.092   |
| 05/10/13 | 24              | 24          | 0.031   | 30         | 591         | 0.087   |
| 05/11/13 | 24              | 24          | 0.034   | 30         | 595         | 0.086   |
| 05/12/13 | 24              | 24          | 0.144   | 30         | 599         | 0.090   |
| 05/13/13 | 24              | 24          | 0.069   | 30         | 604         | 0.090   |
| 05/14/13 | 24              | 24          | 0.078   | 30         | 613         | 0.092   |
| 05/15/13 | 24              | 24          | 0.179   | 30         | 615         | 0.094   |
| 05/16/13 | 24              | 24          | 0.155   | 30         | 615         | 0.094   |
| 05/17/13 | 24              | 24          | 0.115   | 30         | 618         | 0.093   |
| 05/18/13 | 24              | 24          | 0.111   | 30         | 620         | 0.093   |
| 05/19/13 | 24              | 24          | 0.157   | 30         | 622         | 0.097   |
| 05/20/13 | 24              | 24          | 0.102   | 30         | 628         | 0.097   |
| 05/21/13 | 24              | 24          | 0.164   | 30         | 650         | 0.103   |
| 05/22/13 | 24              | 24          | 0.103   | 30         | 653         | 0.102   |
| 05/23/13 | 24              | 24          | 0.205   | 30         | 656         | 0.105   |
| 05/24/13 | 12              | 12          | 0.126   | 30         | 649         | 0.105   |
| 05/25/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/26/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/27/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/28/13 | 22              | 22          | 0.071   | 30         | 651         | 0.104   |
| 05/29/13 | 24              | 24          | 0.180   | 30         | 653         | 0.109   |
| 05/30/13 | 24              | 24          | 0.144   | 30         | 655         | 0.110   |
| 05/31/13 | 24              | 24          | 0.013   | 30         | 663         | 0.110   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

| Source:    | S20             |             |         |            | Standard Limit: | 0.89    |
|------------|-----------------|-------------|---------|------------|-----------------|---------|
| Parameter: | S20SO2#M        |             |         |            | 30 - Day        |         |
| Date       | Daily           |             |         | 30 - Day   |                 |         |
|            | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours     | Average |
| 06/01/13   | 21              | 21          | 0.022   | 30         | 663             | 0.105   |
| 06/02/13   | 21              | 21          | 0.018   | 30         | 660             | 0.101   |
| 06/03/13   | 23              | 23          | 0.128   | 30         | 662             | 0.100   |
| 06/04/13   | 0               | 0           | F       | 30         | 662             | 0.100 F |
| 06/05/13   | 0               | 0           | F       | 30         | 662             | 0.100 F |
| 06/06/13   | 20              | 20          | 0.045   | 30         | 663             | 0.100   |
| 06/07/13   | 21              | 21          | 0.021   | 30         | 666             | 0.099   |
| 06/08/13   | 0               | 0           | F       | 30         | 666             | 0.099 F |
| 06/09/13   | 2               | 2           | 0.000   | 30         | 651             | 0.096   |
| 06/10/13   | 24              | 24          | 0.166   | 30         | 663             | 0.100   |
| 06/11/13   | 24              | 24          | 0.179   | 30         | 664             | 0.100   |
| 06/12/13   | 24              | 24          | 0.195   | 30         | 667             | 0.100   |
| 06/13/13   | 24              | 24          | 0.193   | 30         | 670             | 0.106   |
| 06/14/13   | 24              | 24          | 0.145   | 30         | 670             | 0.110   |
| 06/15/13   | 24              | 24          | 0.085   | 30         | 670             | 0.112   |
| 06/16/13   | 24              | 24          | 0.064   | 30         | 670             | 0.113   |
| 06/17/13   | 24              | 24          | 0.219   | 30         | 670             | 0.115   |
| 06/18/13   | 24              | 24          | 0.227   | 30         | 670             | 0.120   |
| 06/19/13   | 24              | 23          | 0.198   | 30         | 669             | 0.124   |
| 06/20/13   | 24              | 24          | 0.150   | 30         | 669             | 0.123   |
| 06/21/13   | 24              | 24          | 0.166   | 30         | 669             | 0.124   |
| 06/22/13   | 24              | 24          | 0.122   | 30         | 669             | 0.124   |
| 06/23/13   | 24              | 24          | 0.152   | 30         | 669             | 0.125   |
| 06/24/13   | 24              | 24          | 0.159   | 30         | 669             | 0.125   |
| 06/25/13   | 24              | 24          | 0.223   | 30         | 669             | 0.129   |
| 06/26/13   | 24              | 24          | 0.240   | 30         | 669             | 0.132   |
| 06/27/13   | 24              | 24          | 0.205   | 30         | 669             | 0.135   |
| 06/28/13   | 21              | 21          | 0.238   | 30         | 666             | 0.136   |
| 06/29/13   | 0               | 0           | F       | 30         | 666             | 0.136 F |
| 06/30/13   | 0               | 0           | F       | 30         | 666             | 0.136 F |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

| Source:    | S20      | Standard Limit: |             |         |            |             |            |    |
|------------|----------|-----------------|-------------|---------|------------|-------------|------------|----|
|            |          | Daily           |             |         | 30 - Day   |             |            |    |
| Parameter: | S20SO2RE |                 |             |         |            |             | Low Limit: | 90 |
|            | Date     | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average    |    |
|            | 04/01/13 | 21              | 21          | 96.1    | 30         | 459         | 96.3       |    |
|            | 04/02/13 | 19              | 19          | 95.5    | 30         | 460         | 96.3       |    |
|            | 04/03/13 | 20              | 20          | 96.6    | 30         | 479         | 96.2       |    |
|            | 04/04/13 | 18              | 18          | 97.4    | 30         | 478         | 96.2       |    |
|            | 04/05/13 | 18              | 18          | 91.4    | 30         | 494         | 95.9       |    |
|            | 04/06/13 | 0               | 0           | F       | 30         | 494         | 95.9 F     |    |
|            | 04/07/13 | 2               | 2           | 100.0   | 30         | 475         | 96.1       |    |
|            | 04/08/13 | 22              | 22          | 92.7    | 30         | 477         | 96.0       |    |
|            | 04/09/13 | 23              | 23          | 94.1    | 30         | 482         | 96.1       |    |
|            | 04/10/13 | 24              | 24          | 95.0    | 30         | 487         | 96.0       |    |
|            | 04/11/13 | 20              | 20          | 97.9    | 30         | 505         | 96.0       |    |
|            | 04/12/13 | 20              | 20          | 97.4    | 30         | 505         | 96.0       |    |
|            | 04/13/13 | 19              | 19          | 97.0    | 30         | 507         | 95.9       |    |
|            | 04/14/13 | 15              | 15          | 98.4    | 30         | 506         | 96.2       |    |
|            | 04/15/13 | 22              | 22          | 95.6    | 30         | 510         | 96.2       |    |
|            | 04/16/13 | 24              | 24          | 95.8    | 30         | 516         | 96.2       |    |
|            | 04/17/13 | 21              | 21          | 94.8    | 30         | 527         | 96.3       |    |
|            | 04/18/13 | 22              | 22          | 96.3    | 30         | 547         | 96.1       |    |
|            | 04/19/13 | 22              | 22          | 92.6    | 30         | 548         | 95.9       |    |
|            | 04/20/13 | 18              | 18          | 96.5    | 30         | 548         | 96.0       |    |
|            | 04/21/13 | 2               | 2           | 100.0   | 30         | 530         | 96.2       |    |
|            | 04/22/13 | 21              | 21          | 95.9    | 30         | 532         | 96.1       |    |
|            | 04/23/13 | 21              | 21          | 96.4    | 30         | 538         | 96.2       |    |
|            | 04/24/13 | 19              | 19          | 95.6    | 30         | 544         | 96.1       |    |
|            | 04/25/13 | 20              | 20          | 95.8    | 30         | 544         | 96.1       |    |
|            | 04/26/13 | 22              | 22          | 98.6    | 30         | 543         | 96.2       |    |
|            | 04/27/13 | 22              | 22          | 95.0    | 30         | 544         | 96.2       |    |
|            | 04/28/13 | 16              | 16          | 97.8    | 30         | 542         | 96.2       |    |
|            | 04/29/13 | 21              | 21          | 95.5    | 30         | 552         | 96.3       |    |
|            | 04/30/13 | 24              | 24          | 95.3    | 30         | 559         | 96.2       |    |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

| Source:    | S20      | Standard Limit: |             |          | 30 - Day   |             |         |  |
|------------|----------|-----------------|-------------|----------|------------|-------------|---------|--|
|            |          |                 |             |          | Low Limit: | 90          |         |  |
| Parameter: | Daily    |                 |             | 30 - Day |            |             |         |  |
|            | Date     | Operating Hours | Valid Hours | Average  | Valid Days | Valid Hours | Average |  |
|            | 05/01/13 | 21              | 21          | 95.0     | 30         | 579         | 96.1    |  |
|            | 05/02/13 | 19              | 19          | 95.7     | 30         | 577         | 96.1    |  |
|            | 05/03/13 | 18              | 18          | 96.1     | 30         | 576         | 96.1    |  |
|            | 05/04/13 | 17              | 17          | 96.9     | 30         | 573         | 96.1    |  |
|            | 05/05/13 | 12              | 12          | 97.0     | 30         | 567         | 96.1    |  |
|            | 05/06/13 | 23              | 23          | 95.2     | 30         | 572         | 96.2    |  |
|            | 05/07/13 | 21              | 21          | 93.5     | 30         | 591         | 96.0    |  |
|            | 05/08/13 | 21              | 21          | 89.7     | 30         | 590         | 95.9    |  |
|            | 05/09/13 | 24              | 24          | 85.4     | 30         | 591         | 95.6    |  |
|            | 05/10/13 | 24              | 24          | 96.2     | 30         | 591         | 95.6    |  |
|            | 05/11/13 | 24              | 24          | 94.9     | 30         | 595         | 95.5    |  |
|            | 05/12/13 | 24              | 24          | 95.1     | 30         | 599         | 95.5    |  |
|            | 05/13/13 | 24              | 24          | 95.4     | 30         | 604         | 95.4    |  |
|            | 05/14/13 | 24              | 24          | 94.8     | 30         | 613         | 95.3    |  |
|            | 05/15/13 | 24              | 24          | 93.9     | 30         | 615         | 95.2    |  |
|            | 05/16/13 | 24              | 24          | 95.3     | 30         | 615         | 95.2    |  |
|            | 05/17/13 | 24              | 24          | 94.7     | 30         | 618         | 95.2    |  |
|            | 05/18/13 | 24              | 24          | 94.5     | 30         | 620         | 95.1    |  |
|            | 05/19/13 | 24              | 24          | 95.3     | 30         | 622         | 95.2    |  |
|            | 05/20/13 | 24              | 24          | 95.4     | 30         | 628         | 95.2    |  |
|            | 05/21/13 | 24              | 24          | 93.4     | 30         | 650         | 95.0    |  |
|            | 05/22/13 | 24              | 24          | 92.9     | 30         | 653         | 94.9    |  |
|            | 05/23/13 | 24              | 24          | 89.4     | 30         | 656         | 94.6    |  |
|            | 05/24/13 | 12              | 12          | 94.5     | 30         | 649         | 94.6    |  |
|            | 05/25/13 | 0               | 0           | F        | 30         | 649         | 94.6 F  |  |
|            | 05/26/13 | 0               | 0           | F        | 30         | 649         | 94.6 F  |  |
|            | 05/27/13 | 0               | 0           | F        | 30         | 649         | 94.6 F  |  |
|            | 05/28/13 | 22              | 22          | 93.9     | 30         | 651         | 94.5    |  |
|            | 05/29/13 | 24              | 24          | 94.4     | 30         | 653         | 94.4    |  |
|            | 05/30/13 | 24              | 24          | 95.1     | 30         | 655         | 94.4    |  |
|            | 05/31/13 | 24              | 24          | 98.3     | 30         | 663         | 94.4    |  |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

| Source:    | S20             | Standard Limit: |         |            | Low Limit:  | 90      |
|------------|-----------------|-----------------|---------|------------|-------------|---------|
|            |                 | 30 - Day        |         |            |             |         |
| Parameter: | Daily           |                 |         | Valid Days | Valid Hours | Average |
|            | Operating Hours | Valid Hours     | Average |            |             |         |
| 06/01/13   | 21              | 21              | 91.7    | 30         | 663         | 94.3    |
| 06/02/13   | 21              | 21              | 98.4    | 30         | 660         | 94.4    |
| 06/03/13   | 23              | 23              | 96.0    | 30         | 662         | 94.4    |
| 06/04/13   | 0               | 0               | F       | 30         | 662         | 94.4 F  |
| 06/05/13   | 0               | 0               | F       | 30         | 662         | 94.4 F  |
| 06/06/13   | 20              | 20              | 95.7    | 30         | 663         | 94.4    |
| 06/07/13   | 21              | 21              | 87.3    | 30         | 666         | 94.1    |
| 06/08/13   | 0               | 0               | F       | 30         | 666         | 94.1 F  |
| 06/09/13   | 2               | 2               | 100.0   | 30         | 651         | 94.2    |
| 06/10/13   | 24              | 24              | 95.8    | 30         | 663         | 94.2    |
| 06/11/13   | 24              | 24              | 95.5    | 30         | 664         | 94.2    |
| 06/12/13   | 24              | 24              | 95.1    | 30         | 667         | 94.3    |
| 06/13/13   | 24              | 24              | 95.0    | 30         | 670         | 94.4    |
| 06/14/13   | 24              | 24              | 95.4    | 30         | 670         | 94.8    |
| 06/15/13   | 24              | 24              | 95.8    | 30         | 670         | 94.8    |
| 06/16/13   | 24              | 24              | 97.0    | 30         | 670         | 94.8    |
| 06/17/13   | 24              | 24              | 94.4    | 30         | 670         | 94.8    |
| 06/18/13   | 24              | 24              | 94.4    | 30         | 670         | 94.8    |
| 06/19/13   | 24              | 23              | 95.0    | 30         | 669         | 94.8    |
| 06/20/13   | 24              | 24              | 95.5    | 30         | 669         | 94.8    |
| 06/21/13   | 24              | 24              | 95.3    | 30         | 669         | 94.9    |
| 06/22/13   | 24              | 24              | 96.8    | 30         | 669         | 95.0    |
| 06/23/13   | 24              | 24              | 96.4    | 30         | 669         | 95.0    |
| 06/24/13   | 24              | 24              | 95.6    | 30         | 669         | 94.9    |
| 06/25/13   | 24              | 24              | 94.2    | 30         | 669         | 95.0    |
| 06/26/13   | 24              | 24              | 94.4    | 30         | 669         | 95.0    |
| 06/27/13   | 24              | 24              | 95.0    | 30         | 669         | 95.2    |
| 06/28/13   | 21              | 21              | 94.0    | 30         | 666         | 95.2    |
| 06/29/13   | 0               | 0               | F       | 30         | 666         | 95.2 F  |
| 06/30/13   | 0               | 0               | F       | 30         | 666         | 95.2 F  |

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm Code.

Date Received by DNR

**PART I. FACILITY INFORMATION**

|                                  |  |  |
|----------------------------------|--|--|
| FID/Name of Company              | 436035930 / Manitowoc Public Utilities   | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>05/15/2013</u> (date) |
| Address                          | 701 Columbus Street, Manitowoc, WI 54220 | Type of Audit: <u>CGA</u> , IAA, RAA, RATA   |
| Manufacturer/Model Number        | Stack Process                            | Emission Limit 0.55 lbs NO <sub>x</sub> /mmBtu (30-day rolling ave.)<br>0.20 lbs NO <sub>x</sub> /mmBtu during ozone season            |
| TEI Model: 42iNOx S/N 0908635558 | S20 / B28                                | Total Source Operating Time in Quarter <u>1,730.78</u> (hrs)   |
|                                  |  | Pollutant <u>NO<sub>x</sub></u>  |

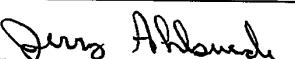
| <b>PART II. CAUSES OF EXCESS EMISSIONS (EE)</b> |                         | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|---|-------------------------|----------------------|----------------------------------|
| A. Startup/Shutdown                             |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   | G. Total (A + B + ...F) | 0                    | <sup>2</sup> 0%                  |

| <b>PART III. CAUSES OF CEMS DOWNTIME</b> |                         | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--|-------------------------|----------------|----------------------------------|
| A. Monitor Equipment Malfunction         |                         | 0              | 0%                               |
|  |                         | 0              | 0%                               |
|  |                         | 1.0            | 0.06%                            |
|  |                         | 0              | 0%                               |
|  |                         | 0              | 0%                               |
|  | F. Total (A + B + ...E) | 1.0            | <sup>2</sup> 0.06%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |                   |
|---|--|-------------------|
| Signature   | Title  |                   |
|  | Energy Supply and Production Supervisor          |                   |
| Printed/Typed Name  | Phone Number (incl. Area Code)<br>(920) 686-4211 | Date Signed       |
| Jerry Ahlsweide   |  | <u>07-16-2013</u> |

LEAVE BLANK - FOR DNR USE ONLY

|                |                     |
|----------------|---------------------|
| Recommendation | DNR Reviewer _____  |
|                | Date Reviewed _____ |

MPU03225

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

Source: S20

Standard Limit:

0.2

Parameter: S20NOX#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 21              | 21          | 0.097   | 30         | 459         | 0.103   |
| 04/02/13 | 19              | 19          | 0.087   | 30         | 460         | 0.102   |
| 04/03/13 | 20              | 20          | 0.113   | 30         | 479         | 0.105   |
| 04/04/13 | 18              | 18          | 0.127   | 30         | 478         | 0.105   |
| 04/05/13 | 18              | 18          | 0.136   | 30         | 494         | 0.109   |
| 04/06/13 | 0               | 0           | F       | 30         | 494         | 0.109 F |
| 04/07/13 | 2               | 2           | 0.022   | 30         | 475         | 0.105   |
| 04/08/13 | 22              | 22          | 0.076   | 30         | 477         | 0.103   |
| 04/09/13 | 23              | 23          | 0.073   | 30         | 482         | 0.101   |
| 04/10/13 | 24              | 24          | 0.058   | 30         | 487         | 0.099   |
| 04/11/13 | 20              | 20          | 0.092   | 30         | 505         | 0.101   |
| 04/12/13 | 20              | 20          | 0.095   | 30         | 505         | 0.100   |
| 04/13/13 | 19              | 19          | 0.096   | 30         | 507         | 0.097   |
| 04/14/13 | 15              | 15          | 0.129   | 30         | 506         | 0.097   |
| 04/15/13 | 22              | 22          | 0.070   | 30         | 510         | 0.096   |
| 04/16/13 | 24              | 24          | 0.075   | 30         | 516         | 0.095   |
| 04/17/13 | 21              | 21          | 0.078   | 30         | 527         | 0.094   |
| 04/18/13 | 22              | 22          | 0.083   | 30         | 547         | 0.094   |
| 04/19/13 | 22              | 22          | 0.122   | 30         | 548         | 0.094   |
| 04/20/13 | 18              | 18          | 0.084   | 30         | 548         | 0.092   |
| 04/21/13 | 2               | 2           | 0.018   | 30         | 530         | 0.088   |
| 04/22/13 | 21              | 21          | 0.078   | 30         | 532         | 0.086   |
| 04/23/13 | 21              | 21          | 0.083   | 30         | 538         | 0.085   |
| 04/24/13 | 19              | 19          | 0.088   | 30         | 544         | 0.087   |
| 04/25/13 | 20              | 20          | 0.090   | 30         | 544         | 0.088   |
| 04/26/13 | 22              | 22          | 0.145   | 30         | 543         | 0.090   |
| 04/27/13 | 22              | 22          | 0.111   | 30         | 544         | 0.089   |
| 04/28/13 | 16              | 16          | 0.127   | 30         | 542         | 0.090   |
| 04/29/13 | 21              | 21          | 0.086   | 30         | 552         | 0.089   |
| 04/30/13 | 24              | 24          | 0.091   | 30         | 559         | 0.089   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source: S20  
Parameter: S20NOX#M

Standard Limit: 0.2

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 21              | 21          | 0.093   | 30         | 579         | 0.091   |
| 05/02/13 | 19              | 19          | 0.107   | 30         | 577         | 0.091   |
| 05/03/13 | 18              | 18          | 0.121   | 30         | 576         | 0.092   |
| 05/04/13 | 17              | 17          | 0.109   | 30         | 573         | 0.092   |
| 05/05/13 | 12              | 12          | 0.074   | 30         | 567         | 0.090   |
| 05/06/13 | 23              | 23          | 0.066   | 30         | 572         | 0.088   |
| 05/07/13 | 21              | 21          | 0.088   | 30         | 591         | 0.090   |
| 05/08/13 | 21              | 21          | 0.123   | 30         | 590         | 0.092   |
| 05/09/13 | 24              | 24          | 0.133   | 30         | 591         | 0.094   |
| 05/10/13 | 24              | 24          | 0.116   | 30         | 591         | 0.096   |
| 05/11/13 | 24              | 24          | 0.124   | 30         | 595         | 0.097   |
| 05/12/13 | 24              | 24          | 0.091   | 30         | 599         | 0.097   |
| 05/13/13 | 24              | 24          | 0.125   | 30         | 604         | 0.098   |
| 05/14/13 | 24              | 24          | 0.106   | 30         | 613         | 0.097   |
| 05/15/13 | 24              | 24          | 0.093   | 30         | 615         | 0.098   |
| 05/16/13 | 24              | 24          | 0.094   | 30         | 615         | 0.098   |
| 05/17/13 | 24              | 24          | 0.102   | 30         | 618         | 0.099   |
| 05/18/13 | 24              | 24          | 0.101   | 30         | 620         | 0.100   |
| 05/19/13 | 24              | 24          | 0.098   | 30         | 622         | 0.099   |
| 05/20/13 | 24              | 24          | 0.116   | 30         | 628         | 0.100   |
| 05/21/13 | 24              | 24          | 0.095   | 30         | 650         | 0.102   |
| 05/22/13 | 24              | 24          | 0.131   | 30         | 653         | 0.104   |
| 05/23/13 | 24              | 24          | 0.099   | 30         | 656         | 0.105   |
| 05/24/13 | 12              | 12          | 0.096   | 30         | 649         | 0.105   |
| 05/25/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/26/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/27/13 | 0               | 0           | F       | 30         | 649         | 0.105 F |
| 05/28/13 | 22              | 22          | 0.082   | 30         | 651         | 0.105   |
| 05/29/13 | 24              | 24          | 0.085   | 30         | 653         | 0.103   |
| 05/30/13 | 24              | 24          | 0.090   | 30         | 655         | 0.102   |
| 05/31/13 | 24              | 24          | 0.131   | 30         | 663         | 0.102   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

**Source:** S20

**Standard Limit:**

0.2

**Parameter:** S20NOX#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 06/01/13 | 21              | 21          | 0.121   | 30         | 663         | 0.103   |
| 06/02/13 | 21              | 21          | 0.112   | 30         | 660         | 0.104   |
| 06/03/13 | 23              | 23          | 0.081   | 30         | 662         | 0.104   |
| 06/04/13 | 0               | 0           | F       | 30         | 662         | 0.104 F |
| 06/05/13 | 0               | 0           | F       | 30         | 662         | 0.104 F |
| 06/06/13 | 20              | 20          | 0.097   | 30         | 663         | 0.103   |
| 06/07/13 | 21              | 21          | 0.143   | 30         | 666         | 0.104   |
| 06/08/13 | 0               | 0           | F       | 30         | 666         | 0.104 F |
| 06/09/13 | 2               | 2           | 0.016   | 30         | 651         | 0.101   |
| 06/10/13 | 24              | 24          | 0.054   | 30         | 663         | 0.100   |
| 06/11/13 | 24              | 24          | 0.069   | 30         | 664         | 0.100   |
| 06/12/13 | 24              | 24          | 0.074   | 30         | 667         | 0.100   |
| 06/13/13 | 24              | 24          | 0.085   | 30         | 670         | 0.099   |
| 06/14/13 | 24              | 24          | 0.095   | 30         | 670         | 0.097   |
| 06/15/13 | 24              | 24          | 0.137   | 30         | 670         | 0.098   |
| 06/16/13 | 24              | 24          | 0.131   | 30         | 670         | 0.098   |
| 06/17/13 | 24              | 24          | 0.069   | 30         | 670         | 0.098   |
| 06/18/13 | 24              | 24          | 0.063   | 30         | 670         | 0.096   |
| 06/19/13 | 24              | 23          | 0.079   | 30         | 669         | 0.095   |
| 06/20/13 | 24              | 24          | 0.105   | 30         | 669         | 0.095   |
| 06/21/13 | 24              | 24          | 0.084   | 30         | 669         | 0.095   |
| 06/22/13 | 24              | 24          | 0.095   | 30         | 669         | 0.095   |
| 06/23/13 | 24              | 24          | 0.069   | 30         | 669         | 0.093   |
| 06/24/13 | 24              | 24          | 0.078   | 30         | 669         | 0.093   |
| 06/25/13 | 24              | 24          | 0.071   | 30         | 669         | 0.091   |
| 06/26/13 | 24              | 24          | 0.061   | 30         | 669         | 0.090   |
| 06/27/13 | 24              | 24          | 0.063   | 30         | 669         | 0.088   |
| 06/28/13 | 21              | 21          | 0.045   | 30         | 666         | 0.086   |
| 06/29/13 | 0               | 0           | F       | 30         | 666         | 0.086 F |
| 06/30/13 | 0               | 0           | F       | 30         | 666         | 0.086 F |

F = Unit Offline    I = Invalid    E = Exceedance

Report Generated: 07/11/13 12:24

Report Version 3.1.1108

STACKVISION2\reportuser

1 of 1

MPU03228

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

**PART I. FACILITY INFORMATION**

|                                 |  |   |
|---------------------------------|--|---|
| FID/Name of Company             | 436035930 / Manitowoc Public Utilities   | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>05/15/2013</u> (date)<br><u>(date)</u> |
| Address                         | 701 Columbus Street, Manitowoc, WI 54220 | Type of Audit: <u>CGA, IAA, RAA, RATA</u>   |
| Manufacturer/Model Number       | Stack Process                            | Emission Limit <u>0.36 lbs CO/mmBtu (30-day rolling ave.)</u>   |
| TEI Model: 48iCO S/N CMO8270019 | S20 / B28                                | Total Source Operating Time in Quarter <u>1.642.65</u> (hrs)<br>Pollutant <u>CO</u>   |

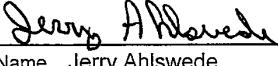
| <b>PART II. CAUSES OF EXCESS EMISSIONS (EE)</b> |  | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|---|--|----------------------|----------------------------------|
| A. Startup/Shutdown                             |  | 0                    | 0%                               |
| B. Process Malfunction                          |  | 0                    | 0%                               |
| C. Control Equipment Malfunction                |  | 0                    | 0%                               |
| D. Fuel Problems                                |  | 0                    | 0%                               |
| E. Other Known Causes                           |  | 0                    | 0%                               |
| F. Unknown Causes                               |  | 0                    | 0%                               |
| G. Total (A + B + ...F)                         |  | 0                    | <sup>2</sup> 0%                  |

| <b>PART III. CAUSES OF CEMS DOWNTIME</b> |  | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--|--|----------------|----------------------------------|
| A. Monitor Equipment Malfunction         |  | 0              | 0%                               |
| B. Non-Monitor Equipment Malfunction     |  | 0              | 0%                               |
| C. QA/QC Calibration                     |  | 6.0            | 0.37%                            |
| D. Other Known Causes                    |  | 0              | 0%                               |
| E. Unknown Causes                        |  | 0              | 0%                               |
| F. Total (A + B + ...E)                  |  | 6.0            | <sup>2</sup> 0.37%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|  |  |
|--|--|
| Signature<br> | Title<br>Energy Supply and Production Supervisor |
| Printed/Typed Name Jerry Ahlsweide   | Phone Number (incl. Area Code)<br>(920) 686-4211 |

LEAVE BLANK - FOR DNR USE ONLY

|                |                     |
|----------------|---------------------|
| Recommendation | DNR Reviewer _____  |
|                | Date Reviewed _____ |

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

Source: S20

Standard Limit: 0.36

Parameter: S20CO#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 17              | 17          | 0.011   | 30         | 421         | 0.023   |
| 04/02/13 | 17              | 17          | 0.015   | 30         | 422         | 0.024   |
| 04/03/13 | 18              | 18          | 0.014   | 30         | 424         | 0.024   |
| 04/04/13 | 16              | 16          | 0.004   | 30         | 425         | 0.024   |
| 04/05/13 | 17              | 17          | 0.033   | 30         | 430         | 0.025   |
| 04/06/13 | 0               | 0           | F       | 30         | 430         | 0.025 F |
| 04/07/13 | 0               | 0           | F       | 30         | 430         | 0.025 F |
| 04/08/13 | 15              | 15          | 1.511   | 30         | 432         | 0.074   |
| 04/09/13 | 19              | 19          | 0.526   | 30         | 436         | 0.089   |
| 04/10/13 | 24              | 24          | 0.042   | 30         | 446         | 0.090   |
| 04/11/13 | 20              | 20          | 0.026   | 30         | 449         | 0.090   |
| 04/12/13 | 18              | 18          | 0.095   | 30         | 454         | 0.093   |
| 04/13/13 | 17              | 17          | 0.105   | 30         | 456         | 0.086   |
| 04/14/13 | 13              | 13          | 0.053   | 30         | 453         | 0.088   |
| 04/15/13 | 20              | 20          | 0.041   | 30         | 459         | 0.089   |
| 04/16/13 | 24              | 24          | 0.028   | 30         | 468         | 0.091   |
| 04/17/13 | 21              | 21          | 0.024   | 30         | 475         | 0.089   |
| 04/18/13 | 20              | 18          | 0.012   | 30         | 478         | 0.086   |
| 04/19/13 | 22              | 22          | -0.003  | 30         | 485         | 0.085   |
| 04/20/13 | 16              | 16          | 0.203   | 30         | 494         | 0.092   |
| 04/21/13 | 0               | 0           | F       | 30         | 494         | 0.092 F |
| 04/22/13 | 17              | 17          | 0.053   | 30         | 510         | 0.093   |
| 04/23/13 | 19              | 19          | 0.106   | 30         | 516         | 0.097   |
| 04/24/13 | 17              | 17          | 0.041   | 30         | 519         | 0.099   |
| 04/25/13 | 17              | 17          | 0.021   | 30         | 518         | 0.099   |
| 04/26/13 | 20              | 20          | 0.148   | 30         | 521         | 0.104   |
| 04/27/13 | 22              | 22          | 0.010   | 30         | 532         | 0.105   |
| 04/28/13 | 15              | 15          | 0.239   | 30         | 536         | 0.112   |
| 04/29/13 | 20              | 20          | 0.093   | 30         | 539         | 0.115   |
| 04/30/13 | 24              | 24          | 0.026   | 30         | 542         | 0.116   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source: S20

Standard Limit:

0.36

Parameter: S20CO#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 21              | 21          | 0.026   | 30         | 547         | 0.117   |
| 05/02/13 | 17              | 17          | 0.068   | 30         | 555         | 0.119   |
| 05/03/13 | 16              | 16          | 0.009   | 30         | 557         | 0.119   |
| 05/04/13 | 15              | 15          | 0.043   | 30         | 555         | 0.120   |
| 05/05/13 | 8               | 8           | 0.781   | 30         | 546         | 0.146   |
| 05/06/13 | 20              | 20          | 0.178   | 30         | 548         | 0.151   |
| 05/07/13 | 21              | 21          | 0.019   | 30         | 553         | 0.152   |
| 05/08/13 | 19              | 19          | 0.868   | 30         | 555         | 0.180   |
| 05/09/13 | 24              | 24          | 0.016   | 30         | 564         | 0.130   |
| 05/10/13 | 24              | 24          | 0.014   | 30         | 569         | 0.113   |
| 05/11/13 | 24              | 24          | 0.022   | 30         | 569         | 0.112   |
| 05/12/13 | 24              | 24          | 0.071   | 30         | 573         | 0.114   |
| 05/13/13 | 24              | 21          | 0.040   | 30         | 576         | 0.112   |
| 05/14/13 | 24              | 24          | 0.026   | 30         | 583         | 0.109   |
| 05/15/13 | 24              | 24          | 0.038   | 30         | 594         | 0.109   |
| 05/16/13 | 24              | 24          | 0.023   | 30         | 598         | 0.108   |
| 05/17/13 | 24              | 24          | 0.024   | 30         | 598         | 0.108   |
| 05/18/13 | 24              | 24          | 0.026   | 30         | 601         | 0.108   |
| 05/19/13 | 24              | 24          | 0.059   | 30         | 607         | 0.110   |
| 05/20/13 | 24              | 24          | 0.071   | 30         | 609         | 0.112   |
| 05/21/13 | 24              | 24          | 0.036   | 30         | 617         | 0.107   |
| 05/22/13 | 24              | 24          | 0.013   | 30         | 624         | 0.105   |
| 05/23/13 | 24              | 24          | 0.095   | 30         | 629         | 0.105   |
| 05/24/13 | 12              | 12          | 0.086   | 30         | 624         | 0.106   |
| 05/25/13 | 0               | 0           | F       | 30         | 624         | 0.106 F |
| 05/26/13 | 0               | 0           | F       | 30         | 624         | 0.106 F |
| 05/27/13 | 0               | 0           | F       | 30         | 624         | 0.106 F |
| 05/28/13 | 14              | 14          | 0.033   | 30         | 621         | 0.107   |
| 05/29/13 | 24              | 24          | 0.033   | 30         | 625         | 0.103   |
| 05/30/13 | 24              | 24          | 0.041   | 30         | 627         | 0.104   |
| 05/31/13 | 24              | 24          | 0.034   | 30         | 636         | 0.097   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

**Source:** S20                    **Standard Limit:** 0.36  
**Parameter:** S20CO#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 06/01/13 | 21              | 21          | 0.023   | 30         | 637         | 0.095   |
| 06/02/13 | 18              | 18          | 0.284   | 30         | 631         | 0.103   |
| 06/03/13 | 23              | 23          | 0.045   | 30         | 633         | 0.104   |
| 06/04/13 | 0               | 0           | F       | 30         | 633         | 0.104 F |
| 06/05/13 | 0               | 0           | F       | 30         | 633         | 0.104 F |
| 06/06/13 | 14              | 14          | 0.094   | 30         | 630         | 0.105   |
| 06/07/13 | 21              | 21          | 0.046   | 30         | 635         | 0.106   |
| 06/08/13 | 0               | 0           | F       | 30         | 635         | 0.106 F |
| 06/09/13 | 0               | 0           | F       | 30         | 635         | 0.106 F |
| 06/10/13 | 19              | 19          | 0.010   | 30         | 639         | 0.105   |
| 06/11/13 | 24              | 24          | 0.019   | 30         | 655         | 0.080   |
| 06/12/13 | 24              | 24          | 0.022   | 30         | 659         | 0.074   |
| 06/13/13 | 24              | 24          | 0.023   | 30         | 662         | 0.074   |
| 06/14/13 | 24              | 24          | 0.024   | 30         | 667         | 0.046   |
| 06/15/13 | 24              | 24          | 0.031   | 30         | 667         | 0.047   |
| 06/16/13 | 24              | 24          | 0.032   | 30         | 667         | 0.047   |
| 06/17/13 | 24              | 24          | 0.050   | 30         | 667         | 0.048   |
| 06/18/13 | 24              | 24          | 0.045   | 30         | 667         | 0.048   |
| 06/19/13 | 24              | 23          | 0.046   | 30         | 669         | 0.048   |
| 06/20/13 | 24              | 24          | 0.077   | 30         | 669         | 0.049   |
| 06/21/13 | 24              | 24          | 0.113   | 30         | 669         | 0.052   |
| 06/22/13 | 24              | 24          | 0.081   | 30         | 669         | 0.054   |
| 06/23/13 | 24              | 24          | 0.083   | 30         | 669         | 0.056   |
| 06/24/13 | 24              | 24          | 0.061   | 30         | 669         | 0.057   |
| 06/25/13 | 24              | 24          | 0.074   | 30         | 669         | 0.058   |
| 06/26/13 | 24              | 24          | 0.037   | 30         | 669         | 0.056   |
| 06/27/13 | 24              | 24          | 0.040   | 30         | 669         | 0.057   |
| 06/28/13 | 21              | 21          | 0.046   | 30         | 666         | 0.058   |
| 06/29/13 | 0               | 0           | F       | 30         | 666         | 0.058 F |
| 06/30/13 | 0               | 0           | F       | 30         | 666         | 0.058 F |

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

**PART I. FACILITY INFORMATION**

|                                     |  |  |  |
|-------------------------------------|--|--|--|
| FID/Name of Company                 | 436035930 / Manitowoc Public Utilities   |  | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>06-18-2013</u> (date)<br><input type="checkbox"/> |
| Address                             | 701 Columbus Street, Manitowoc, WI 54220 |  | Type of Audit: CGA, IAA, RAA, RATA   |
| Manufacturer/Model Number           | Stack Process                            | Emission Limit 0.30 lbs SO <sub>2</sub> /mmBtu (30-day rolling ave.)<br>70% reduction of SO <sub>2</sub> (30-day rolling ave.) |  |
| TEI Model: 43iSO2 S/N 43i0510511567 | S10 / B09                                | Total Source Operating Time in Quarter <u>541.78</u> (hrs)   | Pollutant <u>SO<sub>2</sub></u>  |

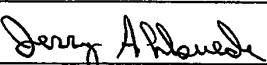
| <b>PART II. CAUSES OF EXCESS EMISSIONS (EE)</b> |                               | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|---|-------------------------------|----------------------|----------------------------------|
| A.  | Startup/Shutdown              | 0                    | 0%                               |
| B.  | Process Malfunction           | 0                    | 0%                               |
| C.  | Control Equipment Malfunction | 0                    | 0%                               |
| D.  | Fuel Problems                 | 0                    | 0%                               |
| E.  | Other Known Causes            | 0                    | 0%                               |
| F.  | Unknown Causes                | 0                    | 0%                               |
| G.  | Total (A + B + ...F)          | 0                    | <sup>2</sup> 0%                  |

| <b>PART III. CAUSES OF CEMS DOWNTIME</b> |                                   | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--|-----------------------------------|----------------|----------------------------------|
| A.                                       | Monitor Equipment Malfunction     | 0              | 0%                               |
| B.                                       | Non-Monitor Equipment Malfunction | 0              | 0%                               |
| C  | QA/QC Calibration                 | 0.90           | 0.17%                            |
| D  | Other Known Causes                | 0              | 0%                               |
| E  | Unknown Causes                    | 0              | 0%                               |
| F  | Total (A + B + ...E)              | 0.90           | <sup>2</sup> 0.17%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |                                  |
|---|--|----------------------------------|
| Signature   | Title  |                                  |
|  | Energy Supply and Production Supervisor          |                                  |
| Printed/Typed Name Jerry Ahlsweide  | Phone Number (incl. Area Code)<br>(920) 686-4211 | Date Signed<br><u>07-16-2013</u> |

LEAVE BLANK - FOR DNR USE ONLY

Recommendation

DNR Reviewer \_\_\_\_\_

Date Reviewed \_\_\_\_\_

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

Source: B9                      Standard Limit: 0.3  
Parameter: B9SO2#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/02/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/03/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/04/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/05/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/06/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/07/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/08/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/09/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/10/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/11/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/12/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/13/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/14/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/15/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/16/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/17/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/18/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/19/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/20/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/21/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/22/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/23/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/24/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/25/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/26/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/27/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/28/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/29/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 04/30/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source:

B9

Standard Limit:

0.3

Parameter:

B9SO2#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/02/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/03/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/04/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/05/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/06/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/07/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/08/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/09/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/10/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/11/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/12/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/13/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/14/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/15/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/16/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/17/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/18/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/19/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/20/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/21/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/22/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/23/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/24/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/25/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/26/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/27/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/28/13 | 0               | 0           | F       | 30         | 593         | 0.185 F |
| 05/29/13 | 3               | 2           | 0.003 I | 29         | 581         | 0.187   |
| 05/30/13 | 23              | 23          | 0.104   | 29         | 601         | 0.190   |
| 05/31/13 | 11              | 11          | 0.369   | 29         | 588         | 0.195   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

| Source:    | B9      |                 |             |         | Standard Limit: | 0.3         |         |
|------------|---------|-----------------|-------------|---------|-----------------|-------------|---------|
| Parameter: | B9SO2#M | Daily           |             |         | 30 - Day        |             |         |
| Date       |         | Operating Hours | Valid Hours | Average | Valid Days      | Valid Hours | Average |
| 06/01/13   |         | 0               | 0           | F       | 29              | 588         | 0.195 F |
| 06/02/13   |         | 0               | 0           | F       | 29              | 588         | 0.195 F |
| 06/03/13   |         | 0               | 0           | F       | 29              | 588         | 0.195 F |
| 06/04/13   |         | 0               | 0           | F       | 29              | 588         | 0.195 F |
| 06/05/13   |         | 12              | 12          | 0.219   | 29              | 576         | 0.195   |
| 06/06/13   |         | 17              | 17          | 0.512   | 29              | 569         | 0.208   |
| 06/07/13   |         | 24              | 24          | 0.244   | 29              | 569         | 0.207   |
| 06/08/13   |         | 24              | 24          | 0.241   | 29              | 569         | 0.209   |
| 06/09/13   |         | 24              | 24          | 0.244   | 29              | 569         | 0.210   |
| 06/10/13   |         | 24              | 24          | 0.235   | 29              | 569         | 0.210   |
| 06/11/13   |         | 24              | 24          | 0.241   | 29              | 571         | 0.210   |
| 06/12/13   |         | 24              | 24          | 0.242   | 29              | 571         | 0.211   |
| 06/13/13   |         | 24              | 24          | 0.236   | 29              | 573         | 0.212   |
| 06/14/13   |         | 24              | 24          | 0.216   | 29              | 573         | 0.213   |
| 06/15/13   |         | 24              | 24          | 0.239   | 29              | 573         | 0.215   |
| 06/16/13   |         | 24              | 24          | 0.231   | 29              | 573         | 0.216   |
| 06/17/13   |         | 24              | 24          | 0.245   | 29              | 573         | 0.216   |
| 06/18/13   |         | 24              | 24          | 0.233   | 29              | 573         | 0.215   |
| 06/19/13   |         | 24              | 24          | 0.229   | 29              | 573         | 0.214   |
| 06/20/13   |         | 24              | 24          | 0.222   | 29              | 573         | 0.214   |
| 06/21/13   |         | 24              | 24          | 0.223   | 29              | 577         | 0.214   |
| 06/22/13   |         | 24              | 24          | 0.204   | 29              | 593         | 0.221   |
| 06/23/13   |         | 24              | 24          | 0.212   | 29              | 593         | 0.220   |
| 06/24/13   |         | 24              | 24          | 0.235   | 29              | 593         | 0.218   |
| 06/25/13   |         | 24              | 24          | 0.218   | 29              | 607         | 0.218   |
| 06/26/13   |         | 22              | 22          | 0.269   | 29              | 628         | 0.228   |
| 06/27/13   |         | 0               | 0           | F       | 29              | 628         | 0.228 F |
| 06/28/13   |         | 0               | 0           | F       | 29              | 628         | 0.228 F |
| 06/29/13   |         | 0               | 0           | F       | 29              | 628         | 0.228 F |
| 06/30/13   |         | 0               | 0           | F       | 29              | 628         | 0.228 F |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

| Source:    | B9            | Standard Limit: |             |         |            |             |         |
|------------|---------------|-----------------|-------------|---------|------------|-------------|---------|
|            |               | Daily           |             |         | 30 - Day   |             |         |
| Parameter: | Low Limit: 90 |                 |             |         |            |             |         |
|            | Date          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
|            | 04/01/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/02/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/03/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/04/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/05/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/06/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/07/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/08/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/09/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/10/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/11/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/12/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/13/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/14/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/15/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/16/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/17/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/18/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/19/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/20/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/21/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/22/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/23/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/24/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/25/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/26/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/27/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/28/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/29/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |
|            | 04/30/13      | 0               | 0           | F       | 30         | 593         | 96.3 F  |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source: B9

Standard Limit:

Parameter: B9SO2RED

Low Limit: 90

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/02/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/03/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/04/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/05/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/06/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/07/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/08/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/09/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/10/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/11/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/12/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/13/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/14/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/15/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/16/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/17/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/18/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/19/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/20/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/21/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/22/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/23/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/24/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/25/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/26/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/27/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/28/13 | 0               | 0           | F       | 30         | 593         | 96.3 F  |
| 05/29/13 | 3               | 2           | 99.9 I  | 29         | 581         | 96.2    |
| 05/30/13 | 23              | 23          | 95.1    | 29         | 601         | 96.1    |
| 05/31/13 | 11              | 11          | 91.5    | 29         | 588         | 95.9    |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

| Source:    | B9       | Standard Limit: |             |            |            |             |         |
|------------|----------|-----------------|-------------|------------|------------|-------------|---------|
|            |          | Daily           |             |            | 30 - Day   |             |         |
| Parameter: | B9SO2RED |                 |             | Low Limit: |            | 90          |         |
|            | Date     | Operating Hours | Valid Hours | Average    | Valid Days | Valid Hours | Average |
|            | 06/01/13 | 0               | 0           | F          | 29         | 588         | 95.9 F  |
|            | 06/02/13 | 0               | 0           | F          | 29         | 588         | 95.9 F  |
|            | 06/03/13 | 0               | 0           | F          | 29         | 588         | 95.9 F  |
|            | 06/04/13 | 0               | 0           | F          | 29         | 588         | 95.9 F  |
|            | 06/05/13 | 12              | 12          | 95.4       | 29         | 576         | 95.9    |
|            | 06/06/13 | 17              | 17          | 91.4       | 29         | 569         | 95.7    |
|            | 06/07/13 | 24              | 24          | 96.3       | 29         | 569         | 95.8    |
|            | 06/08/13 | 24              | 24          | 96.4       | 29         | 569         | 95.8    |
|            | 06/09/13 | 24              | 24          | 96.3       | 29         | 569         | 95.8    |
|            | 06/10/13 | 24              | 24          | 96.6       | 29         | 569         | 95.8    |
|            | 06/11/13 | 24              | 24          | 96.3       | 29         | 571         | 95.9    |
|            | 06/12/13 | 24              | 24          | 96.4       | 29         | 571         | 95.9    |
|            | 06/13/13 | 24              | 24          | 96.4       | 29         | 573         | 95.9    |
|            | 06/14/13 | 24              | 24          | 96.6       | 29         | 573         | 95.9    |
|            | 06/15/13 | 24              | 24          | 96.5       | 29         | 573         | 95.9    |
|            | 06/16/13 | 24              | 24          | 96.7       | 29         | 573         | 95.9    |
|            | 06/17/13 | 24              | 24          | 96.3       | 29         | 573         | 96.0    |
|            | 06/18/13 | 24              | 24          | 96.5       | 29         | 573         | 96.0    |
|            | 06/19/13 | 24              | 24          | 96.5       | 29         | 573         | 96.1    |
|            | 06/20/13 | 24              | 24          | 96.7       | 29         | 573         | 96.1    |
|            | 06/21/13 | 24              | 24          | 96.7       | 29         | 577         | 96.2    |
|            | 06/22/13 | 24              | 24          | 96.8       | 29         | 593         | 96.1    |
|            | 06/23/13 | 24              | 24          | 97.1       | 29         | 593         | 96.1    |
|            | 06/24/13 | 24              | 24          | 96.7       | 29         | 593         | 96.2    |
|            | 06/25/13 | 24              | 24          | 96.9       | 29         | 607         | 96.2    |
|            | 06/26/13 | 22              | 22          | 96.1       | 29         | 628         | 96.1    |
|            | 06/27/13 | 0               | 0           | F          | 29         | 628         | 96.1 F  |
|            | 06/28/13 | 0               | 0           | F          | 29         | 628         | 96.1 F  |
|            | 06/29/13 | 0               | 0           | F          | 29         | 628         | 96.1 F  |
|            | 06/30/13 | 0               | 0           | F          | 29         | 628         | 96.1 F  |

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

**PART I. FACILITY INFORMATION**

|                                     |  |  |
|-------------------------------------|--|--|
| FID/Name of Company                 | 436035930 / Manitowoc Public Utilities | 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>06-18-2013</u> (date)<br><br>Address 701 Columbus Street, Manitowoc, WI 54220 |
| Manufacturer/Model Number           | Stack Process                          | Type of Audit: CGA, IAA, RAA, RATA   |
| TEI Model: 42iNOx S/N 42i0510511562 | S10 / B09                              | Emission Limit <u>0.155 lbs NOx/mmbtu (30-day rolling ave.)</u>  |
|                                     |  | Total Source Operating Time in Quarter <u>541.78</u> (hrs)   |
|                                     |  | Pollutant <u>NOx</u>   |

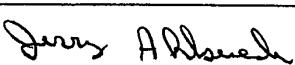
| <b>PART II. CAUSES OF EXCESS EMISSIONS (EE)</b> |                         | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|---|-------------------------|----------------------|----------------------------------|
| A. Startup/Shutdown                             |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   |                         | 0                    | 0%                               |
|   | G. Total (A + B + ...F) | 0                    | <sup>2</sup> 0%                  |

| <b>PART III. CAUSES OF CEMS DOWNTIME</b> |                         | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--|-------------------------|----------------|----------------------------------|
| A. Monitor Equipment Malfunction         |                         | 0              | 0%                               |
|  |                         | 0              | 0%                               |
|  | C. QA/QC Calibration    | 1.90           | 0.35%                            |
|  | D. Other Known Causes   | 0              | 0%                               |
|  | E. Unknown Causes       | 0              | 0%                               |
|  | F. Total (A + B + ...E) | 1.90           | <sup>2</sup> 0.35%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |
|---|--|
| Signature   | Title  |
|  | Energy Supply and Production Supervisor          |
| Printed/Typed Name Jerry Ahlsweide  | Phone Number (incl. Area Code)<br>(920) 686-4211 |
|   | Date Signed<br><u>07-16-2013</u>                 |

LEAVE BLANK - FOR DNR USE ONLY

|                |                     |
|----------------|---------------------|
| Recommendation | DNR Reviewer _____  |
|                | Date Reviewed _____ |

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

Source:

B9

Standard Limit:

0.15

Parameter:

B9NOX#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/02/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/03/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/04/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/05/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/06/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/07/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/08/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/09/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/10/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/11/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/12/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/13/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/14/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/15/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/16/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/17/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/18/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/19/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/20/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/21/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/22/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/23/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/24/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/25/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/26/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/27/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/28/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/29/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 04/30/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source:

B9

Standard Limit:

0.15

Parameter:

B9NOX#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/02/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/03/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/04/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/05/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/06/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/07/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/08/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/09/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/10/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/11/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/12/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/13/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/14/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/15/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/16/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/17/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/18/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/19/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/20/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/21/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/22/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/23/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/24/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/25/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/26/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/27/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/28/13 | 0               | 0           | F       | 30         | 593         | 0.079 F |
| 05/29/13 | 3               | 2           | 0.008 I | 29         | 581         | 0.077   |
| 05/30/13 | 23              | 23          | 0.162   | 29         | 601         | 0.081   |
| 05/31/13 | 11              | 11          | 0.152   | 29         | 588         | 0.083   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

Source:

B9

Standard Limit:

0.15

Parameter:

B9NOX#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 06/01/13 | 0               | 0           | F       | 29         | 588         | 0.083 F |
| 06/02/13 | 0               | 0           | F       | 29         | 588         | 0.083 F |
| 06/03/13 | 0               | 0           | F       | 29         | 588         | 0.083 F |
| 06/04/13 | 0               | 0           | F       | 29         | 588         | 0.083 F |
| 06/05/13 | 12              | 12          | 0.120   | 29         | 576         | 0.084   |
| 06/06/13 | 17              | 17          | 0.136   | 29         | 569         | 0.085   |
| 06/07/13 | 24              | 24          | 0.116   | 29         | 569         | 0.086   |
| 06/08/13 | 24              | 24          | 0.074   | 29         | 569         | 0.085   |
| 06/09/13 | 24              | 24          | 0.066   | 29         | 569         | 0.085   |
| 06/10/13 | 24              | 24          | 0.039   | 29         | 569         | 0.084   |
| 06/11/13 | 24              | 24          | 0.032   | 29         | 571         | 0.084   |
| 06/12/13 | 24              | 23          | 0.035   | 29         | 570         | 0.084   |
| 06/13/13 | 24              | 24          | 0.041   | 29         | 572         | 0.083   |
| 06/14/13 | 24              | 24          | 0.059   | 29         | 572         | 0.083   |
| 06/15/13 | 24              | 24          | 0.062   | 29         | 572         | 0.082   |
| 06/16/13 | 24              | 24          | 0.050   | 29         | 572         | 0.080   |
| 06/17/13 | 24              | 24          | 0.042   | 29         | 572         | 0.080   |
| 06/18/13 | 24              | 24          | 0.042   | 29         | 572         | 0.080   |
| 06/19/13 | 24              | 24          | 0.051   | 29         | 572         | 0.079   |
| 06/20/13 | 24              | 24          | 0.055   | 29         | 572         | 0.078   |
| 06/21/13 | 24              | 24          | 0.041   | 29         | 576         | 0.077   |
| 06/22/13 | 24              | 24          | 0.054   | 29         | 592         | 0.077   |
| 06/23/13 | 24              | 24          | 0.044   | 29         | 592         | 0.076   |
| 06/24/13 | 24              | 24          | 0.036   | 29         | 592         | 0.074   |
| 06/25/13 | 24              | 24          | 0.034   | 29         | 606         | 0.072   |
| 06/26/13 | 22              | 22          | 0.030   | 29         | 627         | 0.073   |
| 06/27/13 | 0               | 0           | F       | 29         | 627         | 0.073 F |
| 06/28/13 | 0               | 0           | F       | 29         | 627         | 0.073 F |
| 06/29/13 | 0               | 0           | F       | 29         | 627         | 0.073 F |
| 06/30/13 | 0               | 0           | F       | 29         | 627         | 0.073 F |

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin  
Department of Natural Resources  
Box 7921  
Madison, Wisconsin 53707

**Excess Emission Report - SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/VOC/CO/Hg**  
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

**PART I. FACILITY INFORMATION**

|                                    |  |   |
|------------------------------------|--|---|
| FID/Name of Company                | 436035930 / Manitowoc Public Utilities   | 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>06-18-2013</u> (date)<br><input type="checkbox"/> (date) |
| Address                            | 701 Columbus Street, Manitowoc, WI 54220 | Type of Audit: <u>CGA, IAA, RAA, RATA</u>   |
|                                    |  | Emission Limit <u>0.15 lbs CO/mmBtu (30-day rolling ave.)</u>   |
| Manufacturer/Model Number          | Stack Process                            | Total Source Operating Time in Quarter <u>509.80</u> (hrs)  |
| TEI Model: 48iCO S/N 48i0510511587 | S10 / B09                                | Pollutant <u>CO</u>   |

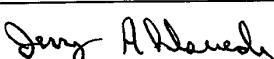
| <b>PART II. CAUSES OF EXCESS EMISSIONS (EE)</b> |                                  | Duration of EE (hrs) | % of Operating Time <sup>1</sup> |
|---|----------------------------------|----------------------|----------------------------------|
| A. Startup/Shutdown                             |                                  | 0                    | 0%                               |
|   | B. Process Malfunction           | 0                    | 0%                               |
|   | C. Control Equipment Malfunction | 0                    | 0%                               |
|   | D. Fuel Problems                 | 0                    | 0%                               |
|   | E. Other Known Causes            | 0                    | 0%                               |
|   | F. Unknown Causes                | 0                    | 0%                               |
|   | G. Total (A + B + ...F)          | 0                    | <sup>2</sup> 0%                  |

| <b>PART III. CAUSES OF CEMS DOWNTIME</b> |                                      | Downtime (hrs) | % of Operating Time <sup>1</sup> |
|--|--------------------------------------|----------------|----------------------------------|
| A. Monitor Equipment Malfunction         |                                      | 0              | 0%                               |
|  | B. Non-Monitor Equipment Malfunction | 0              | 0%                               |
|  | C. QA/QC Calibration                 | 1.20           | 0.24%                            |
|  | D. Other Known Causes                | 0              | 0%                               |
|  | E. Unknown Causes                    | 0              | 0%                               |
|  | F. Total (A + B + ...E)              | 1.20           | <sup>2</sup> 0.24%               |

<sup>1</sup> [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

<sup>2</sup> If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

|   |  |                               |
|---|--|-------------------------------|
| Signature  | Title <u>Energy Supply and Production Supervisor</u> |                               |
| Printed/Typed Name <u>Jerry Ahlswede</u>  | Phone Number (incl. Area Code) <u>(920) 686-4211</u> | Date Signed <u>07-16-2013</u> |

|                                |                    |                     |
|--------------------------------|--------------------|---------------------|
| LEAVE BLANK - FOR DNR USE ONLY |                    |                     |
| Recommendation                 | DNR Reviewer _____ | Date Reviewed _____ |

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 04/01/2013 Through 04/30/2013

**Source:** B9                    **Standard Limit:** 0.15  
**Parameter:** B9CO#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 04/01/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/02/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/03/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/04/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/05/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/06/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/07/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/08/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/09/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/10/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/11/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/12/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/13/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/14/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/15/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/16/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/17/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/18/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/19/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/20/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/21/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/22/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/23/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/24/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/25/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/26/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/27/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/28/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/29/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 04/30/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |

**F = Unit Offline**

**I = Invalid**

**E = Exceedance**

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 05/01/2013 Through 05/31/2013

Source: B9 Standard Limit: 0.15

Parameter: B9CO#M

| Date     | Daily           |             |         | 30 - Day   |             |         |
|----------|-----------------|-------------|---------|------------|-------------|---------|
|          | Operating Hours | Valid Hours | Average | Valid Days | Valid Hours | Average |
| 05/01/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/02/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/03/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/04/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/05/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/06/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/07/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/08/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/09/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/10/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/11/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/12/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/13/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/14/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/15/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/16/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/17/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/18/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/19/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/20/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/21/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/22/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/23/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/24/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/25/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/26/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/27/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/28/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/29/13 | 0               | 0           | F       | 29         | 600         | 0.040 F |
| 05/30/13 | 10              | 10          | 0.095   | 29         | 586         | 0.042   |
| 05/31/13 | 11              | 10          | 0.018   | 29         | 572         | 0.042   |

F = Unit Offline

I = Invalid

E = Exceedance

## 30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities  
Operating Day Criteria = 1 hours

Report Period: 06/01/2013 Through 06/30/2013

| Source:    | B9              |             |         | Standard Limit: | 0.15        |         |
|------------|-----------------|-------------|---------|-----------------|-------------|---------|
| Parameter: | B9CO#M          |             |         |                 |             |         |
| Date       | Daily           |             |         | 30 - Day        |             |         |
|            | Operating Hours | Valid Hours | Average | Valid Days      | Valid Hours | Average |
| 06/01/13   | 0               | 0           | F       | 29              | 572         | 0.042 F |
| 06/02/13   | 0               | 0           | F       | 29              | 572         | 0.042 F |
| 06/03/13   | 0               | 0           | F       | 29              | 572         | 0.042 F |
| 06/04/13   | 0               | 0           | F       | 29              | 572         | 0.042 F |
| 06/05/13   | 4               | 4           | 0.060   | 29              | 564         | 0.043   |
| 06/06/13   | 8               | 8           | 0.035   | 29              | 569         | 0.041   |
| 06/07/13   | 24              | 24          | 0.014   | 29              | 572         | 0.039   |
| 06/08/13   | 24              | 24          | 0.017   | 29              | 572         | 0.038   |
| 06/09/13   | 24              | 24          | 0.019   | 29              | 573         | 0.038   |
| 06/10/13   | 24              | 24          | 0.011   | 29              | 575         | 0.038   |
| 06/11/13   | 24              | 24          | 0.007   | 29              | 575         | 0.037   |
| 06/12/13   | 24              | 24          | 0.009   | 29              | 575         | 0.036   |
| 06/13/13   | 24              | 24          | 0.012   | 29              | 575         | 0.036   |
| 06/14/13   | 24              | 24          | 0.011   | 30              | 599         | 0.035   |
| 06/15/13   | 24              | 24          | 0.019   | 30              | 601         | 0.035   |
| 06/16/13   | 24              | 24          | 0.028   | 30              | 601         | 0.035   |
| 06/17/13   | 24              | 24          | 0.016   | 30              | 601         | 0.034   |
| 06/18/13   | 24              | 24          | 0.016   | 30              | 601         | 0.034   |
| 06/19/13   | 24              | 24          | 0.018   | 30              | 601         | 0.034   |
| 06/20/13   | 24              | 24          | 0.018   | 30              | 601         | 0.034   |
| 06/21/13   | 24              | 24          | 0.024   | 30              | 601         | 0.034   |
| 06/22/13   | 24              | 24          | 0.032   | 30              | 601         | 0.034   |
| 06/23/13   | 24              | 24          | 0.027   | 30              | 601         | 0.034   |
| 06/24/13   | 24              | 24          | 0.023   | 30              | 605         | 0.034   |
| 06/25/13   | 24              | 24          | 0.023   | 30              | 622         | 0.032   |
| 06/26/13   | 22              | 22          | 0.027   | 30              | 620         | 0.026   |
| 06/27/13   | 0               | 0           | F       | 30              | 620         | 0.026 F |
| 06/28/13   | 0               | 0           | F       | 30              | 620         | 0.026 F |
| 06/29/13   | 0               | 0           | F       | 30              | 620         | 0.026 F |
| 06/30/13   | 0               | 0           | F       | 30              | 620         | 0.026 F |

F = Unit Offline

I = Invalid

E = Exceedance



## **MANITOWOC PUBLIC UTILITIES**

---

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 [www.mpu.org](http://www.mpu.org)

### **2nd Quarter 2013 Results Quarterly Audits Manitowoc Public Utilities Manitowoc, Wisconsin**

Results of Calibration Error Test  
Federal Register Part 60 Appendix B  
Performance Specification 1  
Continuous Emission Monitoring Systems  
in Stationary Sources  
at  
Manitowoc Public Utilities  
Manitowoc, Wisconsin

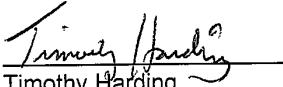


## MANITOWOC PUBLIC UTILITIES

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 www.mpu.org

### Certification Sheet

Having supervised and worked on the test programs described in these reports, and having written these reports, I hereby certify the data, information, and results in these reports to be accurate and true according to the methods and procedures used. Data collected under the supervision of others is included in these reports and is presumed to have been gathered in accordance with recognized standards.

  
\_\_\_\_\_  
Timothy Harding  
Control Instrument Technician (CIT)

#### Reviewed by:

  
\_\_\_\_\_  
Brian Fassbender  
Plant Environmental Contact (PEC)

  
\_\_\_\_\_  
Jerry Ahlsweide  
Central Cems Contact (CCC)



## MANITOWOC PUBLIC UTILITIES

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 [www.mpu.org](http://www.mpu.org)

### S10 OPACITY Calibration Error Test Results:

Nox Low Range - Allowed 3.0% Actual = 0.21%  
Mid Range - Allowed 3.0% Actual = 0.17%  
High Range - Allowed 3.0% Actual = 0.43%

### S20 OPACITY Calibration Error Test Results:

Nox Low Range - Allowed 3.0% Actual = 0.12%  
Mid Range - Allowed 3.0% Actual = 0.13%  
High Range - Allowed 3.0% Actual = 0.21%

### BOILER #8/S20 CEMS Calibration Error Test Results:

#### ESC8832 Dilution Extractive System

Nox Low Range - Low Allowed 15%, Actual = 0.40%  
Nox Low Range - Mid Allowed 15%, Actual = 0.70%  
Nox High Range - Low Allowed 15%, Actual = 0.80%  
Nox High Range - Mid Allowed 15%, Actual = 0.60%  
SO<sub>2</sub> Low Range - Low Allowed 15%, Actual = 0.40%  
SO<sub>2</sub> Low Range - Mid Allowed 15%, Actual = 0.80%  
SO<sub>2</sub> High Range - Low Allowed 15%, Actual = 0.70%  
SO<sub>2</sub> High Range - Mid Allowed 15%, Actual = 1.30%  
CO<sub>2</sub> - Low Range Allowed 15%, Actual = 0.01%  
CO<sub>2</sub> - Mid Range Allowed 15%, Actual = 0.01%  
CO Low Range - Mid Allowed 15%, Actual = 3.10%  
CO Low Range - High Allowed 15%, Actual = 2.40%  
CO High Range - Mid Allowed 15%, Actual = 1.20%  
CO High Range - High Allowed 15%, Actual = 0.70%

### BOILER #9 CEMS Calibration Error Test Results:

#### ESC8832 Dilution Extractive System

Nox Low Range - Low Allowed 15%, Actual = 1.40%  
Nox Low Range - Mid Allowed 15%, Actual = 0.60%  
Nox High Range - Low Allowed 15%, Actual = 1.50%  
Nox High Range - Mid Allowed 15%, Actual = 0.50%  
SO<sub>2</sub> Low Range - Low Allowed 15%, Actual = 2.00%  
SO<sub>2</sub> Low Range - Mid Allowed 15%, Actual = 0.10%  
SO<sub>2</sub> High Range - Low Allowed 15%, Actual = 0.10%  
SO<sub>2</sub> High Range - Mid Allowed 15%, Actual = 0.20%  
CO<sub>2</sub> - Low Range Allowed 15%, Actual = 0.60%  
CO<sub>2</sub> - Mid Range Allowed 15%, Actual = 0.60%  
CO Low Range - Mid Allowed 15%, Actual = 0.50%  
CO Low Range - High Allowed 15%, Actual = 0.30%  
CO High Range - Mid Allowed 15%, Actual = 3.30%  
CO High Range - High Allowed 15%, Actual = 2.30%

## Manitowoc Public Utilities

### Summary of Results Federal Register Part 60 Appendix B Performance Specification 1 Continuous Emission Monitoring Systems in Stationary Sources

#### **S-10 OPACITY - QUARTERLY CALIBRATION ERROR TEST**

Person Conducting Test: Tim Harding

Affiliation: Manitowoc Public Utilities

Date: 6/17/2013

Monitor Path Length. L: 188"

System Output Path Length Corrected? Yes  No  OPLR = .38 TAPER RATIO = 0.766

Analyzer Mfr: United Science Inc.

Model/Serial No: 550 / S.N.5500035

Location: Manitowoc Public Utilities / S10

Emission Outlet Path Length L2: 144"

#### **Calibrated Neutral Density Filter Values:**

##### Actual Optical Density (% Opacity):

|            |        |      |
|------------|--------|------|
| Low-Range  | 0.0778 | 16.5 |
| Mid-Range  | 0.1305 | 25.9 |
| High-Range | 0.2629 | 45.5 |

##### Path Adjusted Optical Density (% Opacity):

|            |      |
|------------|------|
| Low-Range  | 12.9 |
| Mid-Range  | 20.5 |
| High-Range | 37.2 |

| Run Number                        | Calibration Filter Value | Instrument Reading | Arithmetic Difference |       |       |
|-----------------------------------|--------------------------|--------------------|-----------------------|-------|-------|
|                                   |                          |                    | Low                   | Mid   | High  |
| ( Path-Adjusted Percent Opacity ) | (Opacity), Percent       |                    |                       |       |       |
| 1 - Low                           | 12.9                     | 12.8               | 0.10                  | --    | --    |
| 2 - Mid                           | 20.5                     | 20.6               | --                    | -0.08 | --    |
| 3 - High                          | 37.2                     | 37.6               | --                    | --    | -0.42 |
| 4 - Low                           | 12.9                     | 12.7               | 0.20                  | --    | --    |
| 5 - Mid                           | 20.5                     | 20.5               | --                    | 0.02  | --    |
| 6 - High                          | 37.2                     | 37.5               | --                    | --    | -0.32 |
| 7 - Low                           | 12.9                     | 12.8               | 0.10                  | --    | --    |
| 8 - Mid                           | 20.5                     | 20.7               | --                    | -0.18 | --    |
| 9 - High                          | 37.2                     | 37.5               | --                    | --    | -0.32 |
| 10 - Low                          | 12.9                     | 12.8               | 0.10                  | --    | --    |
| 11 - Mid                          | 20.5                     | 20.6               | --                    | -0.08 | --    |
| 12 - High                         | 37.2                     | 37.5               | --                    | --    | -0.32 |
| 13 - Low                          | 12.9                     | 12.7               | 0.20                  | --    | --    |
| 14 - Mid                          | 20.5                     | 20.6               | --                    | -0.08 | --    |
| 15 - High                         | 37.2                     | 37.6               | --                    | --    | -0.42 |
| Arithmetic Mean                   |                          |                    | X                     | 0.14  | -0.08 |
| Confidence Coefficient            |                          |                    | CC                    | 0.07  | 0.09  |
| Calibration Error                 |                          |                    | X + CC                | 0.21  | 0.17  |
|                                   |                          |                    |                       |       | 0.43  |

#### **Calibration Error Test Results:**

Low Range - Allowed 3.0% Actual = 0.21%

Mid Range - Allowed 3.0% Actual = 0.17%

High Range - Allowed 3.0% Actual = 0.43%

## Manitowoc Public Utilities

### Summary of Results Federal Register Part 60 Appendix B Performance Specification 1 Continuous Emission Monitoring Systems in Stationary Sources

#### S-20 OPACITY - QUARTERLY CALIBRATION ERROR TEST

Person Conducting Test: Tim Harding

Affiliation: MPU

Date: 6/17/2013

Monitor Path Length. L: 168"

System Output Path Length Corrected? Yes  No  OPLR = .50 TAPER RATIO = 1.000

Analyzer Mfr: United Science Inc

Model/Serial No: 550 / S.N. 5500219

Location: Manitowoc Public Utilities / S20

Emission Outlet Path Length L2: 168"

#### Calibrated Neutral Density Filter Values:

##### Actual Optical Density (% Opacity):

|            |        |      |
|------------|--------|------|
| Low-Range  | 0.0778 | 16.5 |
| Mid-Range  | 0.1305 | 25.9 |
| High-Range | 0.2629 | 45.5 |

##### Path Adjusted Optical Density (% Opacity):

|            |      |
|------------|------|
| Low-Range  | 16.5 |
| Mid-Range  | 25.9 |
| High-Range | 45.5 |

| Run Number                        | Calibration Filter Value | Instrument Reading | Arithmetic Difference |      |       |
|-----------------------------------|--------------------------|--------------------|-----------------------|------|-------|
|                                   |                          |                    | Low                   | Mid  | High  |
| ( Path-Adjusted Percent Opacity ) | (Opacity), Percent       |                    |                       |      |       |
| 1 - Low                           | 16.5                     | 16.4               | 0.10                  | --   | --    |
| 2 - Mid                           | 25.9                     | 25.9               | --                    | 0.00 | --    |
| 3 - High                          | 45.5                     | 45.6               | --                    | --   | -0.10 |
| 4 - Low                           | 16.5                     | 16.4               | 0.10                  | --   | --    |
| 5 - Mid                           | 25.9                     | 25.9               | --                    | 0.00 | --    |
| 6 - High                          | 45.5                     | 45.6               | --                    | --   | -0.10 |
| 7 - Low                           | 16.5                     | 16.6               | -0.10                 | --   | --    |
| 8 - Mid                           | 25.9                     | 25.8               | --                    | 0.10 | --    |
| 9 - High                          | 45.5                     | 45.6               | --                    | --   | -0.10 |
| 10 - Low                          | 16.5                     | 16.5               | 0.00                  | --   | --    |
| 11 - Mid                          | 25.9                     | 25.8               | --                    | 0.10 | --    |
| 12 - High                         | 45.5                     | 45.7               | --                    | --   | -0.20 |
| 13 - Low                          | 16.5                     | 16.5               | 0.00                  | --   | --    |
| 14 - Mid                          | 25.9                     | 25.8               | --                    | 0.10 | --    |
| 15 - High                         | 45.5                     | 45.7               | --                    | --   | -0.20 |
| Arithmetic Mean                   |                          |                    | X                     | 0.02 | 0.06  |
| Confidence Coefficient            |                          |                    | CC                    | 0.10 | 0.07  |
| Calibration Error                 |                          |                    | X + CC                | 0.12 | 0.13  |
|                                   |                          |                    |                       |      | 0.21  |

#### Calibration Error Test Results:

Low Range - Allowed 3.0% Actual = 0.12%

Mid Range - Allowed 3.0% Actual = 0.13%

High Range - Allowed 3.0% Actual = 0.21%

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/17/2013 23:59

Source: S20  
Parameter: S20NOXLO  
System ID: X05  
Component ID: P06  
Span Value: 200.000

Span Scale Code: L

Test End Date/Time: 05/15/13 09:03

Test Number: XML (P06-Q2-2013-2) / EDR (1)

Reason for Test: Periodic Quality Assurance

Test Result: Pass

Abbreviated?: No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 51.700<br>Measured Mean: 51.500<br>Level Error: 0.4<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC238857<br>Cylinder Exp. Date: 09/17/2014   |
|-------------------|-----------------|----------------|------------|----------------|---|
| <b>Low-Level</b>  |                 |                |            |                |   |
| 05/15/13 07:09    | 51.700          | 51.500         | 0.200      | 0.4            |   |
| 05/15/13 07:53    | 51.700          | 51.500         | 0.200      | 0.4            |   |
| 05/15/13 08:53    | 51.700          | 51.500         | 0.200      | 0.4            |   |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 112.000<br>Measured Mean: 111.167<br>Level Error: 0.7<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC234800<br>Cylinder Exp. Date: 11/08/2014 |
| <b>Mid-Level</b>  |                 |                |            |                |   |
| 05/15/13 07:14    | 112.000         | 111.000        | 1.000      | 0.9            |   |
| 05/15/13 07:58    | 112.000         | 111.100        | 0.900      | 0.8            |   |
| 05/15/13 08:58    | 112.000         | 111.400        | 0.600      | 0.5            |   |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 182.000<br>Measured Mean: 183.133<br>Level Error: 0.6<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: SA18623<br>Cylinder Exp. Date: 06/12/2014  |
| <b>High-Level</b> |                 |                |            |                |   |
| 05/15/13 07:19    | 182.000         | 183.000        | -1.000     | 0.5            |   |
| 05/15/13 08:03    | 182.000         | 183.400        | -1.400     | 0.8            |   |
| 05/15/13 09:03    | 182.000         | 183.000        | -1.000     | 0.5            |   |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/17/2013 23:59

**Source:** S20  
**Parameter:** S20NOXHI  
**System ID:** X05  
**Component ID:** P06  
**Span Value:** 500.000  
**Span Scale Code:** H

**Test End Date/Time:** 05/15/13 12:50  
**Test Number:** XML (P06-Q2-2013-1) / EDR (1)  
**Reason for Test:** Periodic Quality Assurance  
**Test Result:** Pass  
**Abbreviated?:** No

| Injection Time   | Reference Value | Measured Value | Difference | % of Reference |   |
|------------------|-----------------|----------------|------------|----------------|---|
| <b>Low-Level</b> |                 |                |            |                |   |
| 05/15/13 09:53   | 119.000         | 119.500        | -0.500     | 0.4            | Reference Mean: 119.000<br>Measured Mean: 120.000<br>Level Error: 0.8<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC101486<br>Cylinder Exp. Date: 10/25/2014 |
| 05/15/13 11:40   | 119.000         | 120.900        | -1.900     | 1.6            |   |
| 05/15/13 12:40   | 119.000         | 119.600        | -0.600     | 0.5            |   |

| Injection Time   | Reference Value | Measured Value | Difference | % of Reference |   |
|------------------|-----------------|----------------|------------|----------------|---|
| <b>Mid-Level</b> |                 |                |            |                |   |
| 05/15/13 09:58   | 272.000         | 270.100        | 1.900      | 0.7            | Reference Mean: 272.000<br>Measured Mean: 270.267<br>Level Error: 0.6<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC352762<br>Cylinder Exp. Date: 10/26/2014 |
| 05/15/13 11:45   | 272.000         | 270.300        | 1.700      | 0.6            |   |
| 05/15/13 12:45   | 272.000         | 270.400        | 1.600      | 0.6            |   |

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference |   |
|-------------------|-----------------|----------------|------------|----------------|---|
| <b>High-Level</b> |                 |                |            |                |   |
| 05/15/13 10:03    | 453.000         | 448.300        | 4.700      | 1.0            | Reference Mean: 453.000<br>Measured Mean: 448.400<br>Level Error: 1.0<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC350583<br>Cylinder Exp. Date: 09/07/2014 |
| 05/15/13 11:50    | 453.000         | 448.100        | 4.900      | 1.1            |   |
| 05/15/13 12:50    | 453.000         | 448.800        | 4.200      | 0.9            |   |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/17/2013 23:59

**Source:** S20  
**Parameter:** S20SO2LO  
**System ID:**  
**Component ID:** P05  
**Span Value:** 400.000  
**Span Scale Code:** L

**Test End Date/Time:** 05/15/13 09:03  
**Test Number:** XML (P05-Q2-2013-2) / EDR (1)  
**Reason for Test:** Periodic Quality Assurance  
**Test Result:** Pass  
**Abbreviated?:** No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 100.900<br>Measured Mean: 100.500<br>Level Error: 0.4<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC238857<br>Cylinder Exp. Date: 09/17/2014 |
|-------------------|-----------------|----------------|------------|----------------|---|
| <b>Low-Level</b>  |                 |                |            |                |   |
| 05/15/13 07:09    | 100.900         | 102.800        | -1.900     | 1.9            |   |
| 05/15/13 07:53    | 100.900         | 99.600         | 1.300      | 1.3            |   |
| 05/15/13 08:53    | 100.900         | 99.100         | 1.800      | 1.8            |   |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 223.900<br>Measured Mean: 225.767<br>Level Error: 0.8<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC234800<br>Cylinder Exp. Date: 11/08/2014 |
| <b>Mid-Level</b>  |                 |                |            |                |   |
| 05/15/13 07:14    | 223.900         | 223.000        | 0.900      | 0.4            |   |
| 05/15/13 07:58    | 223.900         | 228.000        | -4.100     | 1.8            |   |
| 05/15/13 08:58    | 223.900         | 226.300        | -2.400     | 1.1            |   |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 360.100<br>Measured Mean: 361.433<br>Level Error: 0.4<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: SA18623<br>Cylinder Exp. Date: 06/12/2014  |
| <b>High-Level</b> |                 |                |            |                |   |
| 05/15/13 07:19    | 360.100         | 359.200        | 0.900      | 0.2            |   |
| 05/15/13 08:03    | 360.100         | 362.700        | -2.600     | 0.7            |   |
| 05/15/13 09:03    | 360.100         | 362.400        | -2.300     | 0.6            |   |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/17/2013 23:59

Source: S20  
Parameter: S20SO2HI  
System ID:  
Component ID: P05  
Span Value: 4,000.000  
Span Scale Code: H

Test End Date/Time: 05/15/13 12:50  
Test Number: XML (P05-Q2-2013-1) / EDR (1)  
Reason for Test: Periodic Quality Assurance  
Test Result: Pass  
Abbreviated?: No

|                   |          |          |         |     |   |
|-------------------|----------|----------|---------|-----|---|
| Low-Level         |          |          |         |     | Reference Mean: 1,011.000<br>Measured Mean: 1,017.933<br>Level Error: 0.7<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC101486<br>Cylinder Exp. Date: 10/25/2014 |
| <b>Mid-Level</b>  |          |          |         |     |   |
| 05/15/13 09:58    | 2203.000 | 2225.900 | -22.900 | 1.0 | Reference Mean: 2,203.000<br>Measured Mean: 2,230.733<br>Level Error: 1.3<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC352762<br>Cylinder Exp. Date: 10/26/2014 |
| 05/15/13 11:45    | 2203.000 | 2231.700 | -28.700 | 1.3 |   |
| 05/15/13 12:45    | 2203.000 | 2234.600 | -31.600 | 1.4 |   |
| <b>High-Level</b> |          |          |         |     |   |
| 05/15/13 10:03    | 3494.000 | 3523.500 | -29.500 | 0.8 | Reference Mean: 3,494.000<br>Measured Mean: 3,519.933<br>Level Error: 0.7<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC350583<br>Cylinder Exp. Date: 09/07/2014 |
| 05/15/13 11:50    | 3494.000 | 3518.400 | -24.400 | 0.7 |   |
| 05/15/13 12:50    | 3494.000 | 3517.900 | -23.900 | 0.7 |   |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/17/2013 23:59

**Source:** S20  
**Parameter:** S20CPCO2  
**System ID:** X09  
**Component ID:** P04  
**Span Value:** 20.000  
**Span Scale Code:** H

**Test End Date/Time:** 05/15/13 12:50  
**Test Number:** XML (P04-Q2-2013-1) / EDR (1)  
**Reason for Test:** Periodic Quality Assurance  
**Test Result:** Pass  
**Abbreviated?:** No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference |   |
|-------------------|-----------------|----------------|------------|----------------|---|
| <b>Low-Level</b>  |                 |                |            |                |   |
| 05/15/13 09:53    | 5.600           | 5.600          | 0.000      | 0.0            | Reference Mean: 5.600<br>Measured Mean: 5.600<br>Level Error: 0.0<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC101486<br>Cylinder Exp. Date: 10/25/2014   |
| 05/15/13 11:40    | 5.600           | 5.600          | 0.000      | 0.0            |   |
| 05/15/13 12:40    | 5.600           | 5.600          | 0.000      | 0.0            |   |
| <b>Mid-Level</b>  |                 |                |            |                |   |
| 05/15/13 09:58    | 11.300          | 11.300         | 0.000      | 0.0            | Reference Mean: 11.300<br>Measured Mean: 11.300<br>Level Error: 0.0<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC352762<br>Cylinder Exp. Date: 10/26/2014 |
| 05/15/13 11:45    | 11.300          | 11.300         | 0.000      | 0.0            |   |
| 05/15/13 12:45    | 11.300          | 11.300         | 0.000      | 0.0            |   |
| <b>High-Level</b> |                 |                |            |                |   |
| 05/15/13 10:03    | 18.100          | 18.100         | 0.000      | 0.0            | Reference Mean: 18.100<br>Measured Mean: 18.100<br>Level Error: 0.0<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC350583<br>Cylinder Exp. Date: 09/07/2014 |
| 05/15/13 11:50    | 18.100          | 18.100         | 0.000      | 0.0            |   |
| 05/15/13 12:50    | 18.100          | 18.100         | 0.000      | 0.0            |   |

## Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

Source: S20  
Parameter: S20PCOLO  
Instrument Span: 100.000

Test Date/Time: 05/15/13 09:03  
Test Result: Pass  
Aborted?: No

| Time  | CEMS Value | Audit Value | Difference | % of Audit Value |
|---|------------|-------------|------------|------------------|
| <b>Low-Level</b>  |            |             |            |                  |
| 05/15/13 07:09  | 22.4002    | 5.100       | -2.700     | -10.8            |
| 05/15/13 07:53  | 24.5002    | 5.100       | -0.600     | -2.4             |
| 05/15/13 08:53  | 24.1002    | 5.100       | -1.000     | -4.0             |
| CEMS Mean (Cm): 23.667<br>Audit Mean (Ca): 25.100<br>Accuracy (A) in %: -5.7<br>Mean Difference: -1.4<br>APS Indicator: 0<br>Cylinder #: CC238857<br>Cylinder Exp. Date: 09/17/2014 |            |             |            |                  |
| <b>Mid-Level</b>  |            |             |            |                  |
| 05/15/13 07:14  | 52.5005    | 4.200       | -1.700     | -3.1             |
| 05/15/13 07:58  | 52.5005    | 4.200       | -1.700     | -3.1             |
| 05/15/13 08:58  | 52.5005    | 4.200       | -1.700     | -3.1             |
| CEMS Mean (Cm): 52.500<br>Audit Mean (Ca): 54.200<br>Accuracy (A) in %: -3.1<br>Mean Difference: -1.7<br>APS Indicator: 0<br>Cylinder #: CC234800<br>Cylinder Exp. Date: 11/08/2014 |            |             |            |                  |
| <b>High-Level</b>   |            |             |            |                  |
| 05/15/13 07:19  | 88.6009    | 0.600       | -2.000     | -2.2             |
| 05/15/13 08:03  | 88.3009    | 0.600       | -2.300     | -2.5             |
| 05/15/13 09:03  | 88.5009    | 0.600       | -2.100     | -2.3             |
| CEMS Mean (Cm): 88.467<br>Audit Mean (Ca): 90.600<br>Accuracy (A) in %: -2.4<br>Mean Difference: -2.1<br>APS Indicator: 0<br>Cylinder #: SA18623<br>Cylinder Exp. Date: 06/12/2014  |            |             |            |                  |

## Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

**Source:** S20

**Test Date/Time:** 05/15/13 12:50

**Parameter:** S20PCOHI

**Test Result:** Pass

**Instrument Span:** 5000.000

**Aborted?:** No

| Time              | CEMS Value | Audit Value | Difference | % of Audit Value |  |
|-------------------|------------|-------------|------------|------------------|--|
| <b>Low-Level</b>  |            |             |            |                  |  |
| 05/15/13 09:53    | 1,218.200  | 1,259.000   | -40.800    | -3.2             | CEMS Mean (Cm): 1232.000<br>Audit Mean (Ca): 1259.000<br>Accuracy (A) in %: -2.1<br>Mean Difference: -27.0<br>APS Indicator: 0<br>Cylinder #: CC101486<br>Cylinder Exp. Date: 10/25/2014 |
| 05/15/13 11:40    | 1,238.600  | 1,259.000   | -20.400    | -1.6             |  |
| 05/15/13 12:40    | 1,239.200  | 1,259.000   | -19.800    | -1.6             |  |
| <b>Mid-Level</b>  |            |             |            |                  |  |
| 05/15/13 09:58    | 2,641.900  | 2,709.000   | -67.100    | -2.5             | CEMS Mean (Cm): 2676.000<br>Audit Mean (Ca): 2709.000<br>Accuracy (A) in %: -1.2<br>Mean Difference: -33.0<br>APS Indicator: 0<br>Cylinder #: CC352762<br>Cylinder Exp. Date: 10/26/2014 |
| 05/15/13 11:45    | 2,690.800  | 2,709.000   | -18.200    | -0.7             |  |
| 05/15/13 12:45    | 2,695.300  | 2,709.000   | -13.700    | -0.5             |  |
| <b>High-Level</b> |            |             |            |                  |  |
| 05/15/13 10:03    | 4,338.400  | 4,369.000   | -30.600    | -0.7             | CEMS Mean (Cm): 4337.133<br>Audit Mean (Ca): 4369.000<br>Accuracy (A) in %: -0.7<br>Mean Difference: -31.9<br>APS Indicator: 0<br>Cylinder #: CC350583<br>Cylinder Exp. Date: 09/07/2014 |
| 05/15/13 11:50    | 4,334.900  | 4,369.000   | -34.100    | -0.8             |  |
| 05/15/13 12:50    | 4,338.100  | 4,369.000   | -30.900    | -0.7             |  |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

**Source:** B9

**Test End Date/Time:** 06/18/13 10:26

**Parameter:** B9PNOXLO

**Test Number:** XML (P03-Q2-2013-2) / EDR (1)

**System ID:** X05

**Reason for Test:** Periodic Quality Assurance

**Component ID:** P03

**Test Result:** Pass

**Span Value:** 200.000

**Abbreviated?:** No

**Span Scale Code:** L

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 51.000<br>Measured Mean: 50.300<br>Level Error: 1.4<br>APS Indicator: False<br>Gas Type Code: BALN,CO,NO,SO2<br>Vendor Identifier: F12011<br>Cylinder #: CC232250<br>Cylinder Exp. Date: 06/12/2014 |
|-------------------|-----------------|----------------|------------|----------------|---|
| <b>Low-Level</b>  |                 |                |            |                |   |
| 06/18/13 07:55    | 51.000          | 49.900         | 1.100      | 2.2            |   |
| 06/18/13 09:12    | 51.000          | 50.400         | 0.600      | 1.2            |   |
| 06/18/13 10:12    | 51.000          | 50.600         | 0.400      | 0.8            |   |
| <b>Mid-Level</b>  |                 |                |            |                |   |
| 06/18/13 08:02    | 112.000         | 112.200        | -0.200     | 0.2            |   |
| 06/18/13 09:19    | 112.000         | 111.500        | 0.500      | 0.4            |   |
| 06/18/13 10:19    | 112.000         | 110.300        | 1.700      | 1.5            |   |
| <b>High-Level</b> |                 |                |            |                |   |
| 06/18/13 08:09    | 184.100         | 184.700        | -0.600     | 0.3            |   |
| 06/18/13 09:26    | 184.100         | 184.600        | -0.500     | 0.3            |   |
| 06/18/13 10:26    | 184.100         | 183.100        | 1.000      | 0.5            |   |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

**Source:** B9  
**Parameter:** B9PNOXHI  
**System ID:** X05  
**Component ID:** P03  
**Span Value:** 500.000  
**Span Scale Code:** H

**Test End Date/Time:** 06/18/13 14:22  
**Test Number:** XML (P03-Q2-2013-1) / EDR (1)  
**Reason for Test:** Periodic Quality Assurance  
**Test Result:** Pass  
**Abbreviated?:** No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference |  |
|-------------------|-----------------|----------------|------------|----------------|--|
| <b>Low-Level</b>  |                 |                |            |                |  |
| 06/18/13 11:55    | 126.200         | 124.400        | 1.800      | 1.4            | Reference Mean: 126.200<br>Measured Mean: 124.267<br>Level Error: 1.5<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX49709<br>Cylinder Exp. Date: 07/05/2014 |
| 06/18/13 12:55    | 126.200         | 124.100        | 2.100      | 1.7            |  |
| 06/18/13 14:10    | 126.200         | 124.300        | 1.900      | 1.5            |  |
| <b>Mid-Level</b>  |                 |                |            |                |  |
| 06/18/13 12:01    | 281.600         | 280.500        | 1.100      | 0.4            | Reference Mean: 281.600<br>Measured Mean: 282.967<br>Level Error: 0.5<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX14027<br>Cylinder Exp. Date: 07/12/2014 |
| 06/18/13 13:01    | 281.600         | 284.100        | -2.500     | 0.9            |  |
| 06/18/13 14:16    | 281.600         | 284.300        | -2.700     | 1.0            |  |
| <b>High-Level</b> |                 |                |            |                |  |
| 06/18/13 12:07    | 460.000         | 461.800        | -1.800     | 0.4            | Reference Mean: 460.000<br>Measured Mean: 459.700<br>Level Error: 0.1<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX38357<br>Cylinder Exp. Date: 07/23/2014 |
| 06/18/13 13:07    | 460.000         | 459.100        | 0.900      | 0.2            |  |
| 06/18/13 14:22    | 460.000         | 458.200        | 1.800      | 0.4            |  |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

Source: B9  
Parameter: B9PSO2LO  
System ID:  
Component ID: P01  
Span Value: 400.000  
Span Scale Code: L

Test End Date/Time: 06/18/13 10:26  
Test Number: XML (P01-Q2-2013-2) / EDR (1)  
Reason for Test: Periodic Quality Assurance  
Test Result: Pass  
Abbreviated?: No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference |  |
|-------------------|-----------------|----------------|------------|----------------|--|
| <b>Low-Level</b>  |                 |                |            |                |  |
| 06/18/13 07:55    | 99.400          | 97.900         | 1.500      | 1.5            | <p>Reference Mean: 99.400<br/>Measured Mean: 97.433<br/>Level Error: 2.0<br/>APS Indicator: False<br/>Gas Type Code: BALN,CO,NO,SO2<br/>Vendor Identifier: F12011<br/>Cylinder #: CC232250<br/>Cylinder Exp. Date: 06/12/2014</p>    |
| 06/18/13 09:12    | 99.400          | 97.400         | 2.000      | 2.0            |  |
| 06/18/13 10:12    | 99.400          | 97.000         | 2.400      | 2.4            |  |
| <b>Mid-Level</b>  |                 |                |            |                |  |
| 06/18/13 08:02    | 216.300         | 217.500        | -1.200     | 0.6            | <p>Reference Mean: 216.300<br/>Measured Mean: 216.067<br/>Level Error: 0.1<br/>APS Indicator: False<br/>Gas Type Code: BALN,CO,NO,SO2<br/>Vendor Identifier: F12011<br/>Cylinder #: SA11894<br/>Cylinder Exp. Date: 06/13/2014</p>   |
| 06/18/13 09:19    | 216.300         | 216.100        | 0.200      | 0.1            |  |
| 06/18/13 10:19    | 216.300         | 214.600        | 1.700      | 0.8            |  |
| <b>High-Level</b> |                 |                |            |                |  |
| 06/18/13 08:09    | 365.400         | 369.700        | -4.300     | 1.2            | <p>Reference Mean: 365.400<br/>Measured Mean: 369.333<br/>Level Error: 1.1<br/>APS Indicator: False<br/>Gas Type Code: BALN,CO,NO,SO2<br/>Vendor Identifier: D42012<br/>Cylinder #: EB0000202<br/>Cylinder Exp. Date: 10/22/2014</p> |
| 06/18/13 09:26    | 365.400         | 369.500        | -4.100     | 1.1            |  |
| 06/18/13 10:26    | 365.400         | 368.800        | -3.400     | 0.9            |  |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

Source: B9  
Parameter: B9PSO2HI  
System ID:  
Component ID: P01  
Span Value: 4,000.000  
Span Scale Code: H

Test End Date/Time: 06/18/13 14:22  
Test Number: XML (P01-Q2-2013-1) / EDR (1)  
Reason for Test: Periodic Quality Assurance  
Test Result: Pass  
Abbreviated?: No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 1,006.000<br>Measured Mean: 1,004.967<br>Level Error: 0.1<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX49709<br>Cylinder Exp. Date: 07/05/2014 |
|-------------------|-----------------|----------------|------------|----------------|--|
| <b>Low-Level</b>  |                 |                |            |                |  |
| 06/18/13 11:55    | 1006.000        | 1007.100       | -1.100     | 0.1            |  |
| 06/18/13 12:55    | 1006.000        | 1006.400       | -0.400     | 0.0            |  |
| 06/18/13 14:10    | 1006.000        | 1001.400       | 4.600      | 0.5            |  |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 2,218.000<br>Measured Mean: 2,223.267<br>Level Error: 0.2<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX14027<br>Cylinder Exp. Date: 07/12/2014 |
| <b>Mid-Level</b>  |                 |                |            |                |  |
| 06/18/13 12:01    | 2218.000        | 2219.300       | -1.300     | 0.1            |  |
| 06/18/13 13:01    | 2218.000        | 2221.800       | -3.800     | 0.2            |  |
| 06/18/13 14:16    | 2218.000        | 2228.700       | -10.700    | 0.5            |  |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 3,602.000<br>Measured Mean: 3,551.267<br>Level Error: 1.4<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX38357<br>Cylinder Exp. Date: 07/23/2014 |
| <b>High-Level</b> |                 |                |            |                |  |
| 06/18/13 12:07    | 3602.000        | 3556.700       | 45.300     | 1.3            |  |
| 06/18/13 13:07    | 3602.000        | 3555.200       | 46.800     | 1.3            |  |
| 06/18/13 14:22    | 3602.000        | 3541.900       | 60.100     | 1.7            |  |

## Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

Source: B9  
Parameter: B9CPCO2  
System ID: X09  
Component ID: P04  
Span Value: 20.000  
Span Scale Code: H

Test End Date/Time: 06/18/13 14:22  
Test Number: XML (P04-Q2-2013-2) / EDR (1)  
Reason for Test: Periodic Quality Assurance  
Test Result: Pass  
Abbreviated?: No

| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 5.600<br>Measured Mean: 5.633<br>Level Error: 0.6<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX49709<br>Cylinder Exp. Date: 07/05/2014   |
|-------------------|-----------------|----------------|------------|----------------|--|
| <b>Low-Level</b>  |                 |                |            |                |  |
| 06/18/13 11:55    | 5.600           | 5.700          | -0.100     | 1.8            |  |
| 06/18/13 12:55    | 5.600           | 5.600          | 0.000      | 0.0            |  |
| 06/18/13 14:10    | 5.600           | 5.600          | 0.000      | 0.0            |  |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 11.200<br>Measured Mean: 11.267<br>Level Error: 0.6<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX14027<br>Cylinder Exp. Date: 07/12/2014 |
| <b>Mid-Level</b>  |                 |                |            |                |  |
| 06/18/13 12:01    | 11.200          | 11.200         | 0.000      | 0.0            |  |
| 06/18/13 13:01    | 11.200          | 11.300         | -0.100     | 0.9            |  |
| 06/18/13 14:16    | 11.200          | 11.300         | -0.100     | 0.9            |  |
| Injection Time    | Reference Value | Measured Value | Difference | % of Reference | Reference Mean: 18.400<br>Measured Mean: 18.367<br>Level Error: 0.2<br>APS Indicator: False<br>Gas Type Code: BALN,CO,CO2,NO,SO2<br>Vendor Identifier: D42012<br>Cylinder #: SX38357<br>Cylinder Exp. Date: 07/23/2014 |
| <b>High-Level</b> |                 |                |            |                |  |
| 06/18/13 12:07    | 18.400          | 18.400         | 0.000      | 0.0            |  |
| 06/18/13 13:07    | 18.400          | 18.300         | 0.100      | 0.5            |  |
| 06/18/13 14:22    | 18.400          | 18.400         | 0.000      | 0.0            |  |

## Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

|                          |                                |
|--------------------------|--------------------------------|
| Source: B9               | Test Date/Time: 06/18/13 10:26 |
| Parameter: B9PCOLO       | Test Result: Pass              |
| Instrument Span: 100.000 | Aborted?: No                   |

| Time              | CEMS Value | Audit Value | Difference | % of Audit Value | CEMS Mean (Cm): 26.167<br>Audit Mean (Ca): 24.900<br>Accuracy (A) in %: 5.1<br>Mean Difference: 1.3<br>APS Indicator: 0<br>Cylinder #:<br>Cylinder Exp. Date:   |
|-------------------|------------|-------------|------------|------------------|---|
| <b>Low-Level</b>  |            |             |            |                  |   |
| 06/18/13 07:55    | 27.5002    | 4.900       | 2.600      | 10.4             |   |
| 06/18/13 09:12    | 26.4002    | 4.900       | 1.500      | 6.0              |   |
| 06/18/13 10:12    | 24.6002    | 4.900       | -0.300     | -1.2             |   |
| Time              | CEMS Value | Audit Value | Difference | % of Audit Value | CEMS Mean (Cm): 54.800<br>Audit Mean (Ca): 55.100<br>Accuracy (A) in %: -0.5<br>Mean Difference: -0.3<br>APS Indicator: 0<br>Cylinder #:<br>Cylinder Exp. Date: |
| <b>Mid-Level</b>  |            |             |            |                  |   |
| 06/18/13 08:02    | 54.5005    | 5.100       | -0.600     | -1.1             |   |
| 06/18/13 09:19    | 53.7005    | 5.100       | -1.400     | -2.5             |   |
| 06/18/13 10:19    | 56.2005    | 5.100       | 1.100      | 2.0              |   |
| Time              | CEMS Value | Audit Value | Difference | % of Audit Value | CEMS Mean (Cm): 89.167<br>Audit Mean (Ca): 89.400<br>Accuracy (A) in %: -0.3<br>Mean Difference: -0.2<br>APS Indicator: 0<br>Cylinder #:<br>Cylinder Exp. Date: |
| <b>High-Level</b> |            |             |            |                  |   |
| 06/18/13 08:09    | 88.2008    | 9.400       | -1.200     | -1.3             |   |
| 06/18/13 09:26    | 90.1008    | 9.400       | 0.700      | 0.8              |   |
| 06/18/13 10:26    | 89.2008    | 9.400       | -0.200     | -0.2             |   |

# Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 04/01/2013 00:00 Through 06/19/2013 23:59

**Source:** B9  
**Parameter:** B9PCOHI  
**Instrument Span:** 5000.000

**Test Date/Time:** 06/18/13 14:22  
**Test Result:** Pass  
**Aborted?:** No

| Time              | CEMS Value | Audit Value | Difference | % of Audit Value |  |
|-------------------|------------|-------------|------------|------------------|--|
| <b>Low-Level</b>  |            |             |            |                  |  |
| 06/18/13 11:55    | 1,169.700  | 1,280.000   | -110.300   | -8.6             | CEMS Mean (Cm): 1187.400<br>Audit Mean (Ca): 1280.000<br>Accuracy (A) in %: -7.2<br>Mean Difference: -92.6<br>APS Indicator: 0<br>Cylinder #: CC232250<br>Cylinder Exp. Date: 06/12/2014   |
| 06/18/13 12:55    | 1,200.800  | 1,280.000   | -79.200    | -6.2             |  |
| 06/18/13 14:10    | 1,191.700  | 1,280.000   | -88.300    | -6.9             |  |
| <b>Mid-Level</b>  |            |             |            |                  |  |
| 06/18/13 12:01    | 2,635.300  | 2,722.000   | -86.700    | -3.2             | CEMS Mean (Cm): 2632.800<br>Audit Mean (Ca): 2722.000<br>Accuracy (A) in %: -3.3<br>Mean Difference: -89.2<br>APS Indicator: 0<br>Cylinder #: SA11894<br>Cylinder Exp. Date: 06/13/2014    |
| 06/18/13 13:01    | 2,626.900  | 2,722.000   | -95.100    | -3.5             |  |
| 06/18/13 14:16    | 2,636.200  | 2,722.000   | -85.800    | -3.2             |  |
| <b>High-Level</b> |            |             |            |                  |  |
| 06/18/13 12:07    | 4,414.300  | 4,521.000   | -106.700   | -2.4             | CEMS Mean (Cm): 4415.767<br>Audit Mean (Ca): 4521.000<br>Accuracy (A) in %: -2.3<br>Mean Difference: -105.2<br>APS Indicator: 0<br>Cylinder #: EB0000202<br>Cylinder Exp. Date: 10/22/2014 |
| 06/18/13 13:07    | 4,424.300  | 4,521.000   | -96.700    | -2.1             |  |
| 06/18/13 14:22    | 4,408.700  | 4,521.000   | -112.300   | -2.5             |  |